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Chapter 1 -

Welcome to Quick Scene 2.0!

This chapter introduces you to the new Quick Scene Version 2.0 drawing software. It explains the basic ideas behind CAD, system resource requirements, and how to get help with the program if you need it.

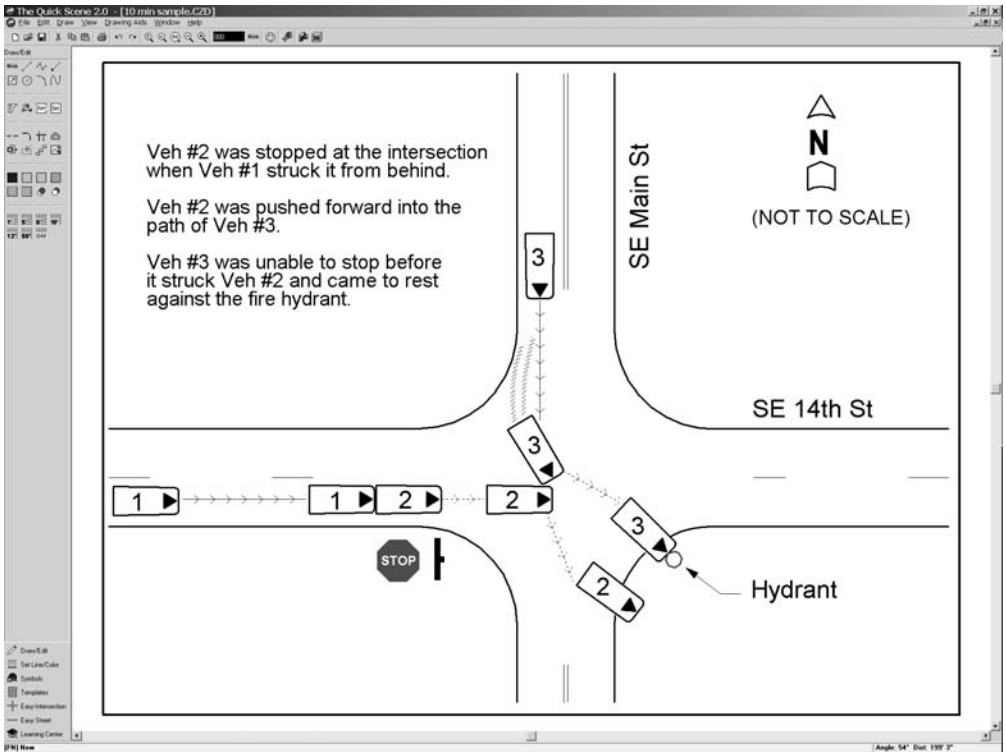
In this Chapter

- Introduction
- Getting Started
- To Our New Users
  - What Is CAD?
  - Why Use CAD?
- Compatibility
- System Requirements
- Help Resources

Introduction to Quick Scene 2.0

Quick Scene 2.0 was created to fill the needs of Insurance Claims Adjusters, private investigators, attorneys and any other professionals who need to create accident scene diagrams faster and easier than ever before. The program contains many special tools that allow the user to easily create accurate diagrams perfectly to scale, and will save time at the incident scene and in the office. Even if you are new to computers, Quick Scene 2.0 makes it easy for you to create professional looking diagrams with a minimum of effort.

Since you have chosen Quick Scene 2.0, you are probably already using other Windows software applications, like a word processor. You will find that many features of The Diagram Program are similar to those found in other Windows programs. This will make it easier for you to learn to use Quick Scene 2.0 since you will already be familiar with how to use Windows.


Veh #2 was stopped at the intersection when Veh #1 struck it from behind.
Veh #2 was pushed forward into the path of Veh #3.
Veh #3 was unable to stop before it struck Veh #2 and came to rest against the fire hydrant.
SE Main St
N
(NOT TO SCALE)
SE 14th St
STOP
Hydrant

Getting Started

Whether you are new to Quick Scene 2.0 or an experienced CAD user, Quick Scene 2.0 User's Manual contains vital information you need to know to be productive in your efforts.

To our New User

What is CAD?

CAD (Computer Aided Drafting) is an automated drawing system that eliminates the redundant tasks done in manual drafting. When drawing on paper, you have to redraw an object each time it is used in a drawing. In CAD you draw an object once, and reuse it as often as you need in the drawing. Your CAD program is like a toolbox - it contains powerful commands for each of your conventional drafting tools like the T-square, Templates, and so on.

Quick Scene 2.0 was created for the investigation industry as a low cost, easy to use alternative to "off-the-shelf" drawing programs like AutoSketch or Visio. Because of its ease of use and industry specific features, Quick Scene 2.0 is the only drawing program available for creating accurate professional diagrams and actually helping to win more cases in the courtroom.

Why use CAD?

The biggest advantage to using CAD is in its accuracy, neatness, and the ability to modify and update existing drawings quickly and easily. CAD uses precise lines, not the dots or pixels used in a paint program, so your drawings always look good in the courtroom. The diagrams drawn in Quick Scene 2.0 are also extremely accurate and can be updated or modified with new information in just minutes. With CAD you never need to do something twice! Now, with Quick Scene 2.0 you can import drawings from most other CAD programs including AutoCAD®, AutoSketch®, Generic CADD®, and previous versions of The CAD Zone's Diagram Program® - all with no conversion!

How do I get started?

Make sure to start by taking The Quick Tour in Chapter 2, and working through the Tutorials in Chapter 4. Doing this will familiarize you with the basic tools and concepts needed to complete your diagrams successfully. As you become more experienced with the program, refer to Chapter 3 and the on-line help for a complete reference of all the program commands.

Compatibility

With Quick Scene 2.0 you can import drawings from most other CAD programs including AutoCAD®, AutoSketch®, Generic CADD®, and previous versions of The CAD Zone's Diagram Program - all with no conversion! Also, the new Quick Scene 2.0 will allow you to save to .BMP, .WMF, and .JPEG formats for easy placement into text documents!

System Requirements

A Pentium PC with Windows 98, 2000, XP, NT 4.0 or later. A VGA monitor with graphics card, a Windows compatible mouse, 32 MB of RAM and 50 MB of hard disk space (depending on the options you choose during installation.)

Additional Help Resources

The following resources will help you get the information you need about Quick Scene 2.0 and assistance with all of your program questions.

The CAD Zone web site at: http://www.cadzone.com
Email support: info@cadzone.com
Phone Support: (503) 641-0334 (Mon - Fri, 9:00 a.m. - 5:00 p.m. PST)
FAX: (503) 641-9077

Chapter 2 -

The Quick Tour!

This chapter offers you a “quick tour” of the program designed to familiarize you with the fundamental tools and concepts that are used in Quick Scene 2.0.

In this Chapter

• The Quick Tour
• Steps To Create A Diagram
• Conventions Used In This Manual
• The Program Screen

Chapter 2: The Quick Tour

On the following pages you will find a "quick tour" of Quick Scene 2.0. This tour is intended to get you familiar with the basic tools and concepts you need to understand in order to use the program efficiently.

Your success with the program depends on how you apply the information included in this manual. Quick Scene 2.0 is a tool, and like any tool it takes practice to become an expert. As you spend more time using the program, you will gain the ability to create all your diagrams more quickly and efficiently than ever.

As you start to work through the methods and features introduced to you in this chapter, keep in mind that only the most basic commands are being introduced here. Refer to this manual and the on-line help to learn how to draw with even greater accuracy and speed using the rest of the program command features.

Steps To Creating A Diagram

Here are the general steps for creating a diagram, although you may want to change the order of some of the steps to best apply to your particular diagram:

1) Start Quick Scene 2.0 and use the "Let's Get Started" wizard to set up a new drawing, load a drawing template, or run the Easy Intersection toolbox.

2) Draw the basic features of the scene using the program's custom drawing tools. These could include a street, intersection, or even a building.

3) Use features from the Speedbar or the Draw Pull-Down menu to draw nearby streets, drives, parking lots, fences, railroad tracks, and other details around the scene.

4) Insert symbols for the various portions of the diagram such as vehicles, road signs, curbing, and road conditions.

5) Label your diagram and add dimensions with the text and dimension features in the program.

6) Save your diagram to disk and print it.

Conventions Used In This Manual

As you begin working in Quick Scene 2.0, some terms may be unfamiliar to you, especially if you are new to CAD. Use the following guidelines to become acquainted with the basic terms and ideas presented in this manual.

Normally, in this manual, you will be given a summary of the task to perform and then the exact step-by-step instructions will be listed. These instructions are shown in a different font, and are indented for easier identification. For example, you are commonly given an instruction like this:

Click on the vehicle to select it.

Here, you would move your mouse pointer until it is on the vehicle symbol and then click your left-mouse button once quickly.

Double click on the Vehicles Symbols Folder

Here, you would place your mouse pointer on the folder named Vehicles and rapidly click the left-mouse button *twice*. Another common instruction is:

Select the "Draw" pull-down menu.

Here, move your mouse pointer up to the menu headings at the top of the program screen, place your mouse pointer on the menu called "Draw" and click the left-mouse button. Once the menu is displayed, you can then click on a command name to select it.

You may also be instructed to select commands this way:

Select "Easy Intersection" from the left-hand toolbox.

Here, position your mouse pointer so it is on the Easy Lines button (located on the left-hand toolbox) and click once with your left-mouse button.

When you are prompted to click on an icon, or when you are prompted to select a command, the equivalent toolbar icon will be shown in the column.

When you are drawing or editing objects, you may be instructed in this way:

Click near point A.

Here, click your mouse near the approximate location on your screen identified by the letter "A" on the designated figure. To attach exactly to a specific point (like the endpoint of a line) you will be instructed like this:

Snap to point A

There are several ways to snap, or attach, exactly to a specific point. The easiest way to do this is to use the "Autosnaps" feature. When this command is turned on, you position the mouse pointer's crosshairs near the point labeled "A" and click the left-mouse button. This causes the mouse to "jump" or snap exactly to the closest endpoint, center of a circle, or center of an arc.

You can also type 2-letter keyboard shortcuts to perform most of Quick Scene's commands. When you are prompted to select a command, the equivalent two-letter keyboard shortcut will be shown in uppercase parenthesis. For example, if you see this, you would type SA:

Save (SA)

Correcting Mistakes

As you begin to draw, you are bound to make mistakes, so Quick Scene 2.0 provides you with the commands Undo (OO), and Redo (RE), found on the Edit Pull-Down menu.

The Undo command will let you undo the last command that was performed during the current drawing session. If you need to Undo multiple commands, select Undo again to undo the second command. For example, if you need to undo the erasing of ten individual objects, you would have to select Undo ten times to bring them all back.

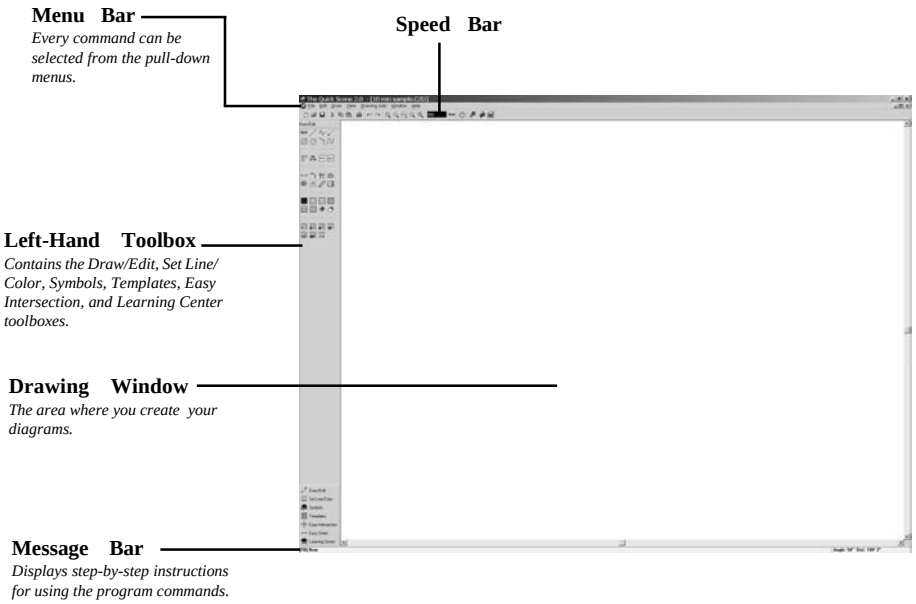
The Edit commands can also be used to help correct mistakes. Use commands like Erase, Copy, Trim/Extend, and Stretch to change objects in the diagram that were not placed exactly the way you want them to be.

If the screen looks a little cluttered after all the erasing, undoing, rotating, and so on, select the Refresh command either from the View pull-down menu, or the Speedbar.

Remember that you can also use the Esc key to abort a command. If you select the wrong item from the menu, pick the wrong point, or want to start a command over, press the Esc key. For commands that require multiple operations or points to be set, pressing Esc backs you up a single step, instead of completely terminating the command. For instance, if you're drawing the outline of a building using the Line command and you set a point incorrectly, just press Esc and re-select that point. Each time you press Esc while in the Line mode, you'll go back to the previous point that was set until the Line command is finally aborted.

The Quick Scene Program Screen

When you start Quick Scene, the first thing to appear on your computer monitor is Quick Scene's program screen. The program screen has everything you need to draw a complete diagram conveniently located on one screen, - all the program commands and tools, and the drawing window.


Menu Bar
Every command can be selected from the pull-down menus.
Speed Bar
Left-Hand Toolbox
Contains the Draw/Edit, Set Line/ Color, Symbols, Templates, Easy Intersection, and Learning Center toolboxes.
Drawing Window
The area where you create your diagrams.
Message Bar
Displays step-by-step instructions for using the program commands.

The Drawing Window and the Mouse Pointer

The Drawing Window is the large, blank area that covers the center portion of the screen. This is the area where you draw your diagram. Everything else you see on the screen are the individual tools that help you get the exact diagram that you want.

Inside the Drawing Window is a floating pointer that you control by moving your mouse. The mouse pointer is used to select features from the menus and toolboxes, perform the drawing functions, and place objects in the diagram. The mouse pointer starts as an arrow, but may change shape depending on which feature you are using. The Arrow Pointer is used to represent the "selection mode" which means the program expects you to select an object or command from the program screen.

Pull-down menus

All of the program's commands and special features can be executed from the Pull-down menus. Most of these commands and special features can also be selected from the speedbar and left toolboxes. Most of the commonly used commands can also be performed by typing in their two-letter code on the keyboard.

The Speedbar

The Speedbar, located just below the pull-down menus, provides a shortcut for the most powerful, commonly used commands. The speedbar commands can also be selected from the pull-down menus and the left toolbox, but the speedbar provides the fastest way of selecting them.

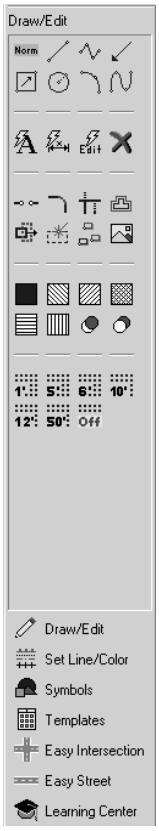
Angle Locking

The Angle Locking Draw feature simplifies drawing lines by automatically straightening the line you are drawing when you come within five degrees of horizontal or vertical.

For instance, when you select the line command you click once on the drawing screen to place the first point of the line. At this point you can move the cursor in any direction. Notice that anytime your cursor moves within 5 degrees of horizontal or vertical, it will automatically straighten out. When your line is at the desired angle, click the left-mouse button a second time to finishing placing it.

Left-Hand Toolbox

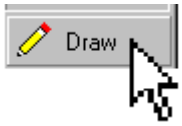
The Left-Hand Toolbox runs along the left portion of the drawing window. While all of the commands can be found on the Pull-Down menus, the Left-hand Toolbox offers a quicker way to select many of them. The commands found on the toolbox are arranged in "Bins" (groups) of similar features such as drawing and editing, setting line/color properties, Symbols, Templates, Easy Intersections, and The Learning Center.



Left-Hand Toolbox.

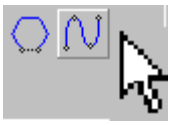
Selecting Commands from the Toolboxes

To see all of the command icons in a bin, position the mouse pointer on the desired bin, and click the left-mouse button. All of the command icons are displayed at the top of the toolbox.



Opening the Draw Bin

To select a command from the displayed bin, just click the left-mouse on the command's icon.



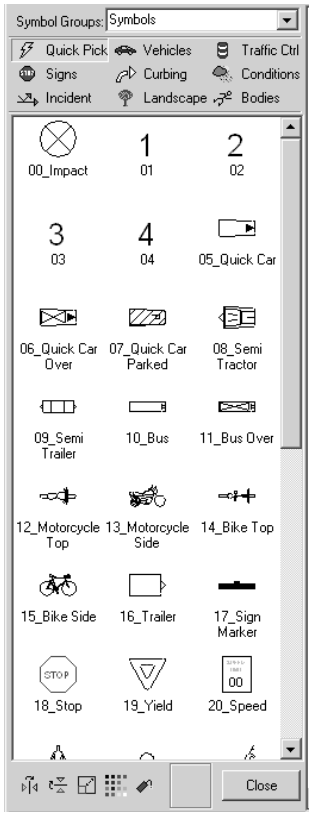
Selecting Commands from the Bins.

Symbol Manager

Quick Scene includes many pre-drawn symbols that you can insert into any of your diagrams. Once placed into a diagram, symbols can be moved, rotated, erased, or copied just like any individual line or circle.

Since so many symbols are included in the program, they have been divided into several different groups and are sorted in the Symbol Manager. To open a different set of symbols, simply click on a different group label.

To place a symbol, first click on the desired symbol category icon on the Symbol Manager to open it. Next, pick the desired symbol from the Icons that appear in the bottom window of the Symbol Manger. Before you identify the symbol's location in the diagram the program shows you a ghost image outline of the symbol to show you its size and orientation. Move your cursor back into the drawing window to see the symbol's ghost image. You can also change the symbol's rotation or color by clicking the appropriate icons on the Symbol Manger *before you even place the symbol in the drawing!*



The Symbol Manager

To place a symbol click once in the drawing to anchor the symbol. Move the cursor to establish the symbol's direction and click again.

Dynamic Symbol Scale

You can also adjust the size of any symbol as you place it by selecting the Dynamic Symbol Scale feature, located on the Symbol Manger. Select the Dynamic Symbol Scale Icon and set the symbol's first handle, as you would do normally. Now as you move the mouse pointer the size of the symbol's ghost image grows or shrinks depending on the position of the mouse pointer. Click the second point when the symbol's ghost image has reached the desired size and angle. The Dynamic Symbol Scale feature is a "toggle" switch command and remains in effect until you select the command again to turn it off.

Pull-Down Menus, Icons, Toolboxes, or Two-Letter Codes?

So, what is the best way to select a command - use the menus, toolboxes, Speedbar Icons, or keyboard commands? There really is no "best" way. You simply use whatever method is the most convenient at the time. The more you use the two-letter commands and the speedbar, the more likely you are to memorize the commands associated with them. Using them can provide a significant shortcut over searching through the pull-down menus. Throughout this manual, all of the different methods will be used so you can become familiar with the flexibility of the program.

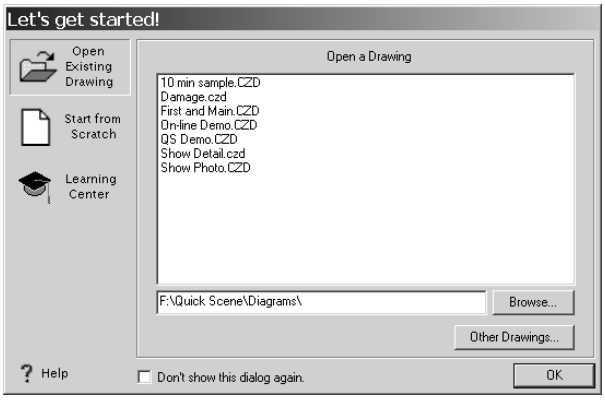
Let's Get Started

The Let's Get Started dialog box is designed to help you get started drawing faster than ever before! With shortcuts to setting up a new drawing, your existing drawings, the electronic User's Manual, quick-time tutorial movies, and links to on-line technical support, the learning center will help you master Quick Scene 2.0 in no time!

When you first open the program the "Let's get started" screen is displayed. From there you can select to: Create a new drawing, open an existing drawing, or open the Learning Center.

Opening an Existing Drawing
Choose this option to load an existing drawing that you created previously with Quick Scene 2.0.

Click the "Open Existing Drawing" button on the Let's Get Started" dialog box.
Scroll through the diagrams listed in the "Open a Drawing" window, or click the Browse button to search for another folder. The Other Drawings button allows you to open files of other types like Laser Technology .RAW files.
Select the diagram you wish to open and click the OK button to load it into the Diagram Program.



Start From Scratch

Choose this option to create a new drawing with Quick Scene 2.0.

Click the "Start From Scratch" button on the Let's Get Started dialog box.

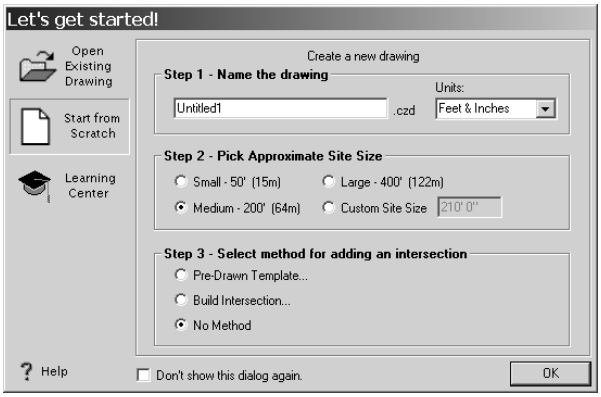
Step One prompts you to click in the Drawing Name field and type in the desired name of your drawing.

Step Two prompts you to pick the approximate site size. Choose from small, medium, large or custom size options.

Step Three prompts you to select a method of adding an intersection. You are given three options:

- Pre-drawn Template - Opens the "Load a Template" toolbox, allowing you to choose from several pre-drawn intersections.
- Build an Intersection - Opens the Easy Intersection toolbox, allowing you to create your own custom intersection.
- No Method - Draws a border to the size that you chose in Step One, allowing you to create a diagram completely from scratch.

Click the OK button to load the intersection you just created in the drawing screen with the drawing name you assigned it.

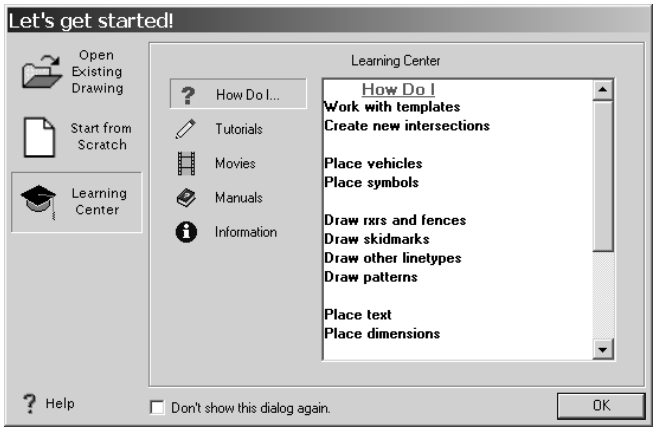


The Learning Center

Choose the Learning Center option to gain access to Help File Topics, Electronic Tutorials, Movies, Manuals, and to the CAD Zone's internet Web Site, which features a Discussion forum with more on-line help.

Click the "Learning Center" button on the Let's Get Started dialog box.

Click the topic that you would like to see displayed in the learning center window. For example, clicking the Movies topic



displays all of the quick-time available.
Scroll through all of the movie titles displayed in the learning center window. Click on the desired movie title to run that movie.

If you don't want the Learning Center dialog box to appear again, click the checkmark option labeled "don't show this dialog again"

Chapter 3 -

Program Features

This chapter introduces you to the program features and explains the program commands in detail.

In this Chapter

- **Instruction on how to use every command in the program.**

File Menu

New (File New, FN)

Use the New command to start a new drawing from scratch. Quick Scene assigns the first file created within a drawing session the name UNTITLED1, the second file UNTITLED2, and so on.

Quick Scene automatically sets up the drawing environment for a new file based on preferences you have specified when saving other drawings, or on defaults shipped with the program.

To start a new drawing:

Start Quick Scene without specifying an existing drawing file to load.

or

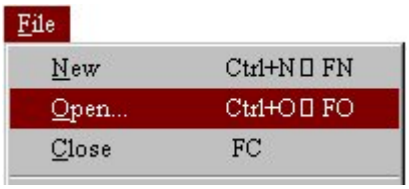
If Quick Scene is running, choose the New command.

Open (File Open, FO)

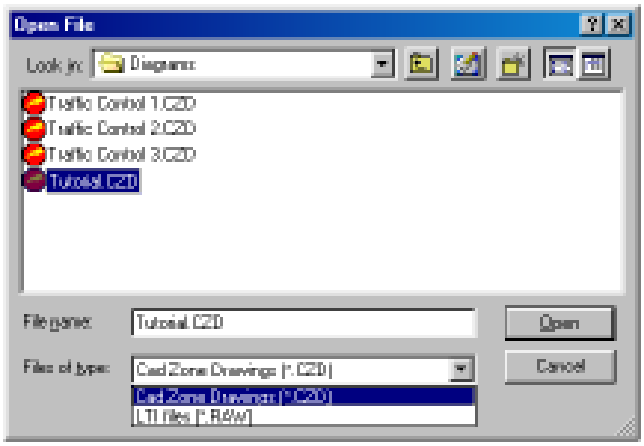
Use the Open command to continue work on a drawing, or to load an AutoCAD, Generic CADD, or DXF-format file as a Quick Scene file.

To open an existing drawing file, using the Open command:

1. Choose the Open command.



2. If necessary, in the List Files of Type list, change the file type.
(By default, Quick Scene lists files with the CZD extension. You can also select AutoCAD (.DWG) files, .DXF files, Generic CADD (.GCD) files, Quick Scene (.CZD) files, or previous CAD Zone (.DW2) files.)



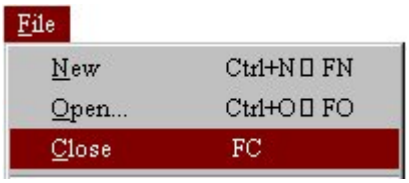
3. If necessary, change the path and drive in order to locate the file you wish to open.
4. In the list box, double-click the file name, or select the file name and click OK.

Tip:
If you want the program to remember the file path so the same path is displayed the next time you open a file, check the “Save Current Path” box.

Close (File Close, FC)

Use the Close command to close the active drawing file, either prior to exiting Quick Scene or before opening another drawing. Having only one drawing file open at a time will conserve memory.
To close the current drawing:

Choose the Close command.



Quick Scene remains active after the drawing file closes, but will only display the File and Help menus.

Save (DS)

Use the Save command to save your drawing data. Save often during a drawing session as protection against power outages or computer crashes, and save at the end of a drawing before exiting Quick Scene. This command saves the drawing to disk under the current name.

To save the current drawing:

Choose the Save command.

If the file has been previously saved and named, Quick Scene saves the file under the current name. If the file has not yet been saved, Quick Scene displays a Save File dialog box where you can name the file and set the path location, as described for the Save As command.

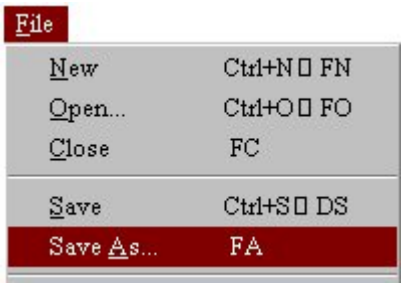
Save As (FA)

Use the Save As command to rename and save a drawing with another name, or to save a copy of an existing drawing so that it can be used as the base of a new drawing. Save As preserves the last-saved version of the file, and saves a copy under the name you give it.

You can also use this command to save the file into a different file format, so that it can be used with other computer-aided drawing programs.

To save a drawing under a new name:

1. Choose the Save As command.



A dialog box appears with a list of existing drawings displayed in the current path. This dialog box functions just like that found in other Windows programs.

2. If necessary, change drives or paths to place the drawing in the location of your choice.
3. If necessary, change the drawing extension in the Type box to one of the other supported file types.

This causes the file to be saved in the selected file type so that the drawing can be read by other drawing or CAD programs.

4. Type a name for the file in the File Name box.
5. Click OK.

The drawing is saved in the chosen format, name, drive and path. The new file name is displayed at the top of the drawing window.

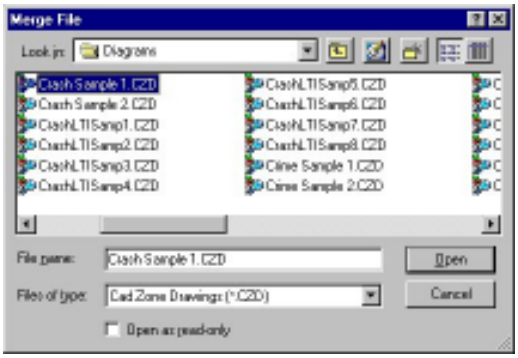
Merge (FM)

Use the Merge command to combine the contents of two drawings. The name and drawing environment of the first drawing loaded are maintained, and all the symbols and attributes of the second drawing are added to those of the first (conflicts, such as duplicate symbol names are resolved in favor of the first drawing).

To merge another drawing file into the current drawing:

1. Choose the Merge command. Remember that both files that you are trying to merge must both be .CZD files.

2. If necessary, change the path and drive in order to locate the file you wish to merge.
3. In the list box, double-click the file name, or select the file name and click OK.



Once loaded, the merged file will be represented by an “extent” box that is attached to the cursor at the lower left corner. (An extent box is a box that represents the outer edges of your drawing.)

4. Drag the extent box of the merged file to the desired location, then click to place the merged drawing in place.

Tip:
If you want the same file path to be displayed the next time you merge a file, check the “Save Current Path” box. Also remember that you can only merge files that are both .CZD files.

Import Images (BI)

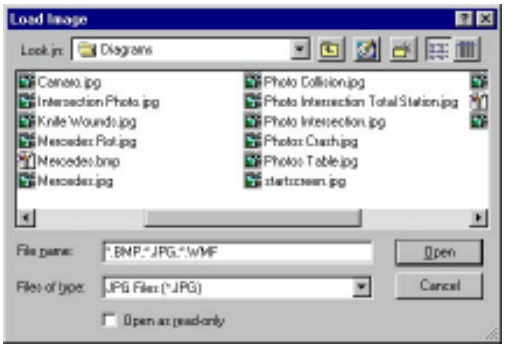
Use this command to import Bitmap (.BMP) and JPEG (.JPG) files into a diagram. Once placed in a diagram these images can be viewed, printed, or moved. However, you can not modify the images in any way. They are treated as a single object in the diagram.

To import an image:

1. Choose the Import Images command from the File menu.
2. Click (or snap) to place two, diagonal points in the diagram where you want to place the image.

A dialog box appears that allows you to select the desired image file.

3. Using standard Windows methods, select the proper drive and folder, then select the desired image file. Normally only .BMP and .JPG files are listed.



The image is inserted into the diagram at the location specified earlier.

Files from other CAD programs, such as AutoCAD and Visual CADD, or files of type .DXF can be imported into Quick Scene with the Open File command.

Export Images (VB)

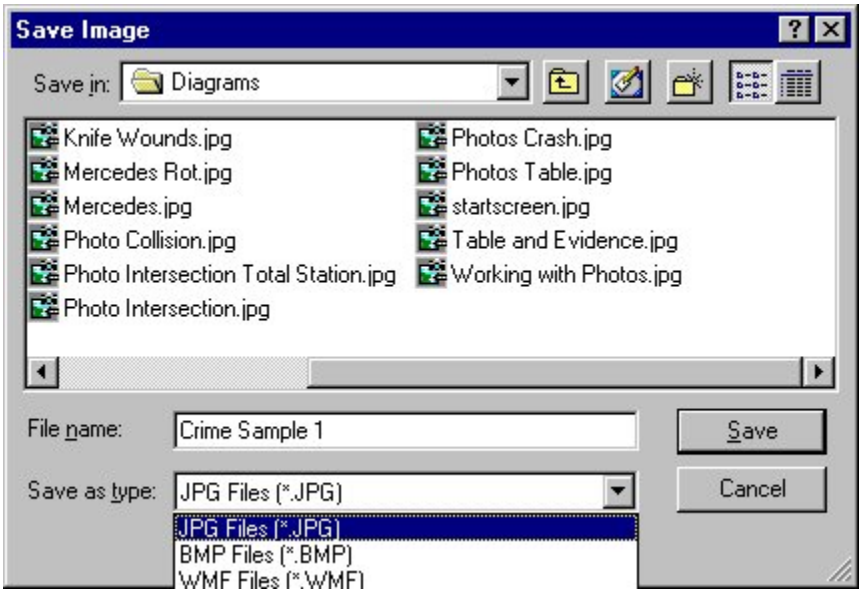
Use this command to export diagrams out of the program in Bitmap (.BMP) Metafile (.WMF) and JPEG (.JPG) format. Once saved these images may be used by other applications such as Microsoft Word or Lotus Notes.

To export an image:

1. Choose the Export Images command from the File menu.

A dialog box appears that allows you to select the desired image format that you wish to save in.

2. Using standard Windows methods, select the proper drive and folder, then select the desired image file. Normally only .BMP and .JPG files are listed.



The image is saved in the specified file type.

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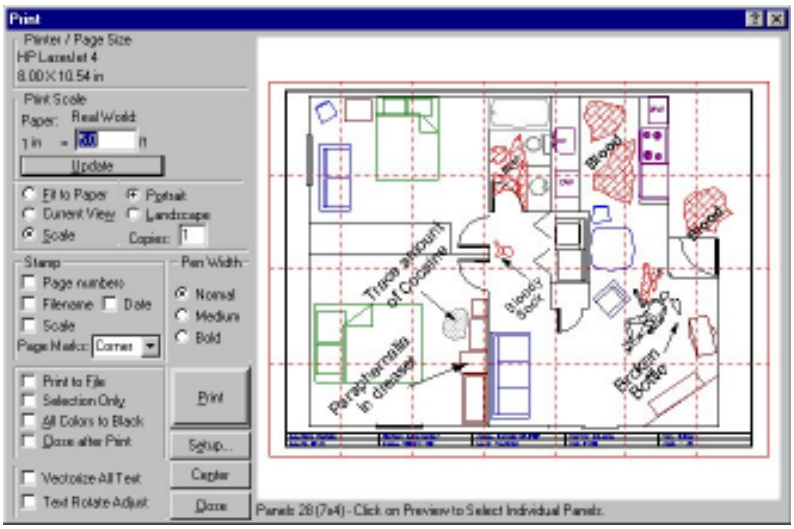
Print (PR)

The Print dialog can also be accessed from the main speedbar icon by typing the 2 letter command, PR. The dialog maintains all the settings for accessing and controlling the printed output. The available options allow for full control over standard print features such as orientation and size along with a variety of options for improving print output and performance.



Printer - the printer section displays the currently active printer. To change the printer select the “Setup..” button.

Page Size - the page size is dependent on the installed printer. To change the page size or review other sizes supported by the current driver select the “Setup…” button.

Print Scale - the print scale setting displays the current scale factor for printing. The value is only used when the scale option is selected. Values are entered in paper units versus real world coordinates. For example, 1 in. = 48 in. will print the drawing at quarter inch scale (48"/12" = 4’). The Real World units always reflect the smallest unit in the current system settings. For example, when the current units are “ft.-in.” the smallest unit is the inch.

Fit to Paper, Current View or Scale - defines the mode the current print job is to use. The drawing can be scaled automatically to fit the current paper size, scaled to display the current view to fit the page or to a factor entered.

Portrait or Landscape - determines the paper orientation between horizontal (landscape) or vertical (portrait).

Print to File - send the output to a file on disk. Quick Scene will prompt for a file path and name after the “Print” button is selected.

Print Continued

Time/Date Stamp - includes a time and date stamp on the printed page. The location of the time stamp are controlled by settings in Windows.

Selection Only - prints only the selected entities in the drawing.

Copies - sets the number of copies to print.

Preview - shows a preview of the drawing as it will print using the current settings.

Center - centers the drawing on the given page based on the current margin settings.

Setup - used to select a new printer or initiate the driver setup for the active printer. The print routine utilizes the Windows drivers provided by the printer manufacturers. These drivers contain printer specific settings that may improve overall print performance. The drivers vary between printer and printer manufacturer. For details on options available through the driver please refer to the printer manufacturers documentation.

Update - used to update the print preview screen after changes have been made to the print settings.

Print Setup - Use this command to display the Print Setup dialog box. The Print Setup dialog is used to select a new printer or initiate the driver setup for the active printer. The print routine utilizes the Windows drivers provided by the printer manufacturers. These drivers contain printer specific settings that may improve overall print performance. The drivers vary between printer and printer manufacturer. For details on options available through the driver please refer to the printer manufacturers documentation.

To display the Print Setup dialog box:

1. Choose the Print Setup command, or click Setup in the Print dialog box.

Make changes as necessary to the settings for printer.

2. Click Properties to display a dialog box of printer-specific options like , paper size,

Print Continued

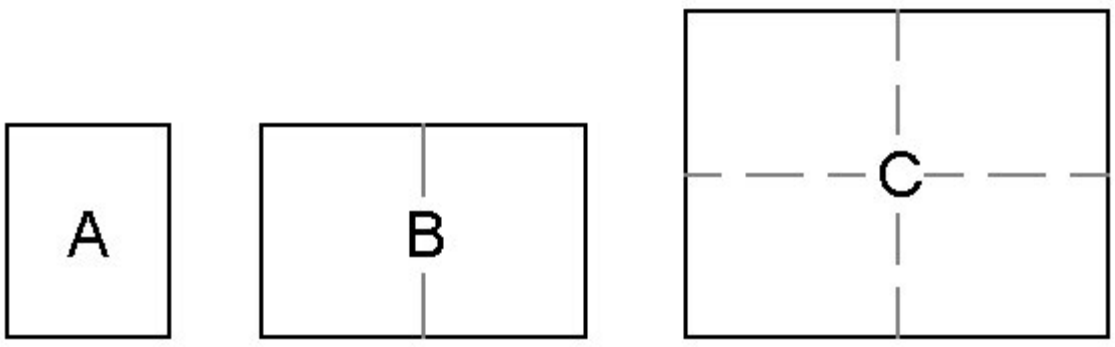
page orientation, and paper source. The driver information is also available through the Window Print Manager. In Windows 95 select the start button on the taskbar and choose Setting ~ Printers.
3. Click OK to accept the printer setup options.

Tip:
The Print command uses the standard Windows drivers for output to the printer. If your printed drawing does not look like the one on the screen or if you have other problems printing, you may need to obtain updated printer drivers from your printer manufacturer. You can normally call your manufacturer for more information or visit their web page and download new drivers from there.

Print Tiling

When printing diagrams to an exact scale, it is possible to specify a scale that does not allow the diagram to fit on one sheet of paper. In this case the program automatically uses Print tiling to divide the drawing up so it can be printed on multiple sheets. If you don't have access to a large-scale plotter, print tiling gives you the ability to print your diagrams on multiple sheets and tape them together to construct a larger print.

A single sheet of 8.5" x 11" paper is commonly referred to as an A-size sheet of paper. A B-size sheet of paper is 11" x 17", or two A-size sheets taped together side-by-side. A C-size sheet of paper is 17" x 22", or four sheets of A-size taped together in two columns and two rows. This process continues upward. If you don't have a large paper plotter, print tiling gives you the ability to piece together any number of A-size sheets to construct your own "plot."

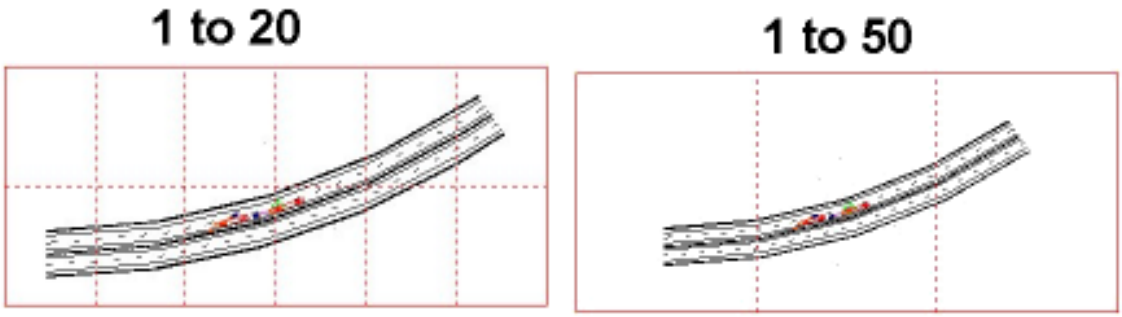


Using the Print Tiling Feature:

Print Continued

1. To use Print Tiling, the Scale radial button must be selected. The other two selections do not allow tiling. Fit to Paper will fit the entire diagram on a single sheet of paper. Current View will display the current zoomed view of the diagram on the drawing screen and print out on a single sheet.

2. The Print Scale must be set to a scale that requires more then one sheet of paper to print the drawing. As the scale value decreases, the number of required panels increases. For example, it takes more panels to print a diagram at a scale of 1" = 20' than at a scale of 1" = 50'.



3. After setting the scale, click on the Update button to see your results. You will need to click Update each time you enter a new scale to see the effect that scale value has on the print.

Tip:
If you want to optimize how your drawing fits on the paper, try switching between Portrait and Landscape orientation. In some cases this will result in fewer panels needed to print out the drawing.

4. The message below the preview window shows the number of panels required with the number of columns (number of panels horizontally) and number of rows (number of panels vertically) shown in parenthesis.

5. By default all the panels will be printed. If you want to just print individual panels, click on the ones you want to print to select them.

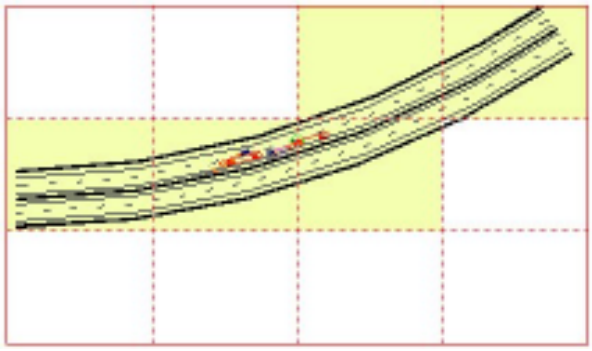
6. Select the Print button to print out all of your selected panels. A message will appear telling you how many panels you're about to print, giving you a chance to Cancel the print if this number is not what you intended.

Print Continued

Advanced Tiling Features

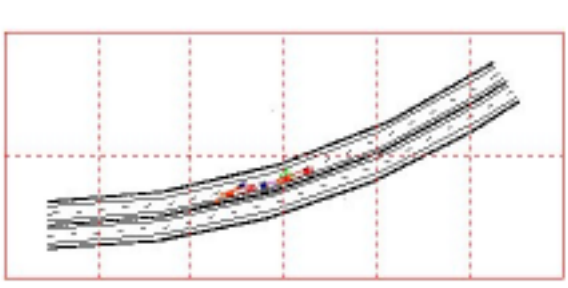
Close After Print
If this box IS NOT checked, you will be returned to the print dialog after each print so you can continue with other print jobs. If this box IS checked then the print dialog box automatically closes each time you click the Print button and you are returned to the drawing screen. Whenever the print dialog is closed, the drawing re-center's itself and any previously selected tiles are deselected. Other settings may be affected as well.

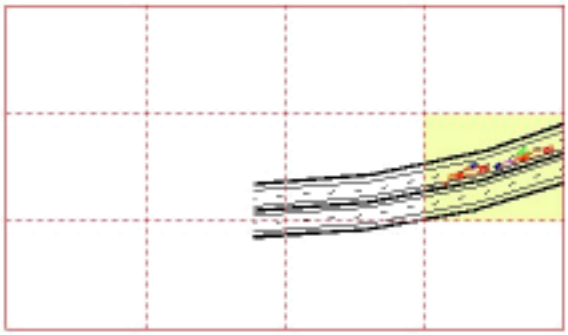
Printing Individual Panels: You can click on individual panels in the print preview window. Each panel you click on is highlighted with a yellow background. When you select the Print button, only the selected (highlighted) panels will print. This will come in handy if you want to print out a particular piece of the drawing or if you want to avoid printing blank panels.



Tip:
You may have blank panels depending on the shape (content) of the drawing especially if you drag the drawing to fit better in the panels and intentionally drag the drawing out of some panels.

Positioning the Drawing: Once the scale and the number of panels has been established you can drag the drawing around inside the panels. Depending on the shape of the drawing, you might be able to get the drawing to fit better by moving it within the panels. Just move your cursor over the display, hold down your left mouse button, and drag the drawing to a new position.





Page Marks and Stamps

Print Continued

Since your printer can't print all the way to the edge of a sheet of paper (there is always a required margin) you will need to trim your panels before taping them together. In the Stamp section of the print dialog you'll find selections for Page Marks including None (no page marks), Corner, or Outline.

> Use **Corner** marks if you have a paper cutter that allows you to lay down a sheet of paper, line up the corners, and pull down the blade to trim the edge away.
>
> Use **Outline** if you intend to use scissors to trim the excess paper away.

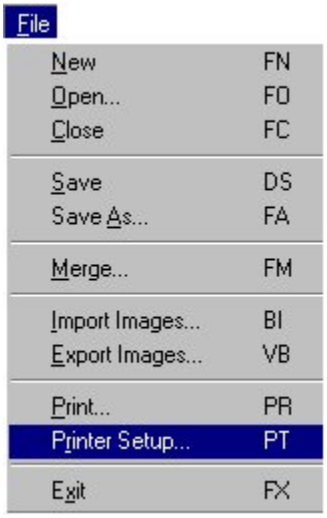
The Stamp selections, if checked, will print the selected stamp(s) at the bottom of EACH page, including the page number, filename, date printed, and drawing scale. If you have many panels to print, you may not want all of the stamps (such as filename and date) printed on each page. In this case, click on just one panel to select it, and print that panel with all the stamps. Then turn off those stamps and print the remaining panels with just the page numbers.

Print Setup (PT)

Use the Printer Setup command to display the Printer Setup dialog box. The Printer Setup dialog is used to select a new printer or initiate the driver setup for the active printer. The print command uses the Windows drivers provided by your printer manufacturer. These drivers contain printer specific settings that may improve overall print performance. The drivers vary between printer and printer manufacturer. For details on options available through the driver please refer to the printer manufacturer's documentation.

To display the Printer Setup dialog box:

1. Choose the Printer Setup command, or click Setup in the Print dialog box.



Make changes as necessary to the settings for the printer.

2. Click Options to display a dialog box of printer-specific options like , paper size, page orientation, and paper source. The driver information is also available through the Window Print Manager. In Windows 95 select the start button on the taskbar and choose Settings…Printers.
3. Click OK to accept the printer setup options.

Exit (FX)

Use the Exit command to exit Quick Scene. If unsaved drawings are loaded, Quick Scene prompts you to save the drawing files before closing the program.

To exit Quick Scene :

Choose the Exit command.

Edit Menu

Undo (OO)

Use the Undo command to reverse one or more of your last commands. Any operation that changes the drawing can be reversed. For example, erased objects are restored, drawn objects are removed and moved objects are replaced in their original positions. Operations that do not change the entities in the drawing such as zoom commands, selections, hiding/displaying of layers, settings, and so on, are not affected by the Undo command.

To reverse the last operation performed:

Choose the Undo command.

The last operation is undone; a drawn object will disappear, an erased object will reappear, etc.

Tip:
If you accidentally undo an operation, you can use the REDO command to cancel the undo.

Redo (RE)

Use the Redo command immediately after an Undo command to reverse the effect of the Undo command by “redoing” the command. If several consecutive operations were undone, Redo can be used repeatedly to restore each one.

To redo the last operation undone:

Choose the Redo command.

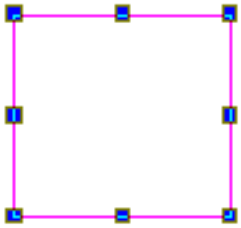
The last undo operation is canceled.

Cut (Ctrl + X)

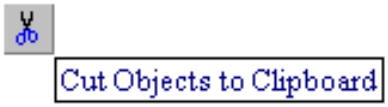
Use the Cut command to move objects to different locations in your drawing or to other drawings or other Windows applications. Cut removes the selected objects from the drawing and places them onto the Windows clipboard. Use the Paste command to copy these objects from the clipboard back into a drawing or into another Windows application.

To cut objects from the drawing onto the clipboard:

1. Select the objects to be removed from the drawing and placed on the clipboard.



2. Choose the Cut command.



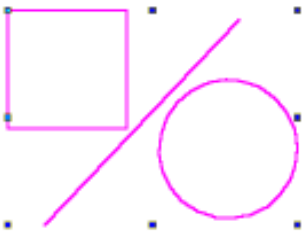
The selected objects disappear from the drawing and are placed on the clipboard.

Copy (Ctrl + C)

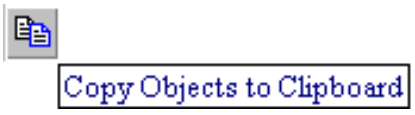
Use the Copy command to copy objects from your drawing to other locations in your drawing, to other drawings or to other Windows applications. Copy places these objects onto the Windows clipboard. Use the Paste command to paste them from the clipboard back into your current drawing, into other drawings or into other applications.

To copy objects onto the clipboard:

1. Select the objects to be copied to the clipboard.



2. Choose the Copy command.



The selected objects remain in the drawing but are also copied to the clipboard.

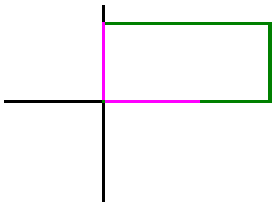
Paste (Ctrl + V)

Use the Paste command to copy information from the Windows clipboard into your drawing or into other Windows applications.

To paste objects from the clipboard into your drawing:

1. Choose the Paste command.

A box indicating the extent (width and height) of the clipboard contents appears, attached at the upper left corner to the cursor. You drag this box to position the contents in the drawing.



2. Click to paste the clipboard objects into the drawing.

The clipboard contents are pasted into the drawing. The objects remain in the clipboard, ready to be placed elsewhere.

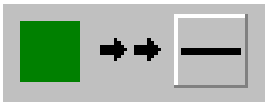
Quick Edit

Use this command to preset the properties (the color, and line type, etc.) to be used for drawing future objects.

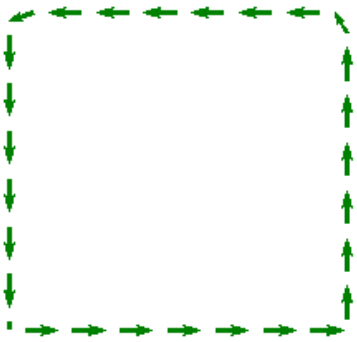
To preset object properties:

1. Choose the Set Line/Color button from the Left-Hand menu.

2. Select the properties that you want to apply, such as a new line type or color.



These properties will be applied to any objects drawn from then on, until the properties are changed again.

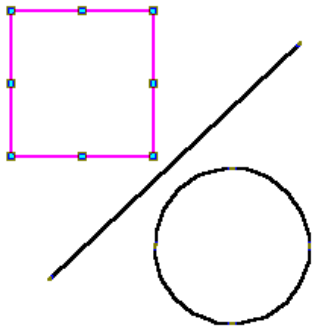


Delete (Erase, ER)

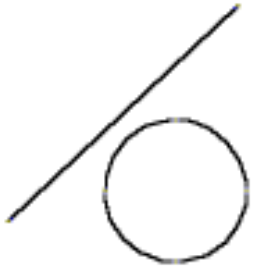
Use the Delete (or Erase) command to delete unwanted objects.

To delete objects from your drawing:

1. Select the objects to be deleted.



2. Choose the Delete command or press the Delete key on the keyboard. The objects will be deleted.



Tip
Like other drawing and editing commands, Erase is reversible. To restore an item or selection that has been erased, click the Undo button on the Modify menu or hold down Ctrl and press Z on the keyboard.

Break (BR)

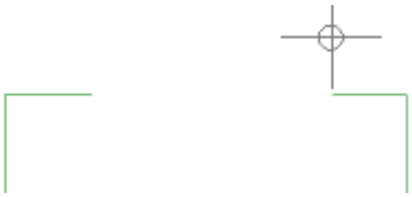
Use the Break command when you want to break a gap or hole in an object. For example, you may want to insert an opening in a wall for a door or window.

To create a break in an object:

1. Select the object that you want to break.
2. Place a point at or near where you want the break to begin.

This point need not be exactly on the object; the break will start at the point closest to the point you place. However, if you want to break the opening at an exact location be sure to place Markers (use Easy Lines command) and then Snap exactly to them.

3. Move your mouse and a dynamic preview of the break appears, shadowing the cursor movement.



4. Place a point at or near where you want the break to end.

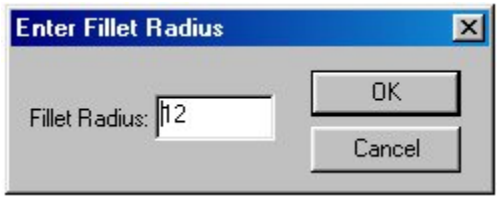
Fillet (FI)

Use the Fillet command to create rounded corners between lines, arcs, and rectangles.

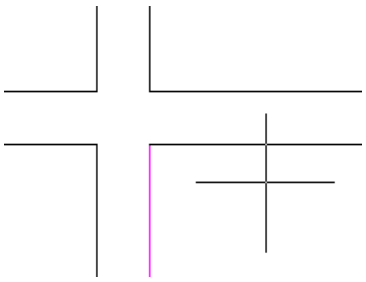
To fillet two objects:

1. Choose the Fillet command.

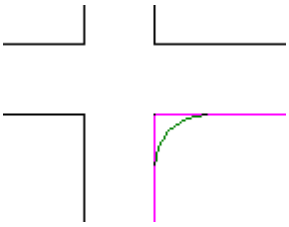
2. A dialog box appears where you can set the Fillet Radius:
Enter a new radius in the "Fillet Radius" text box.



3. Click the first line or arc to be filleted.



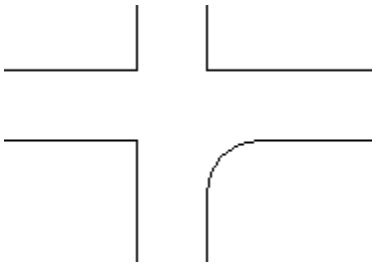
4. Click the second line or arc to be filleted.



Fillet continued

Move your cursor around the intersection and notice the preview of the fillet arc moves from corner to corner.

5. Click when the preview fillet arc is in the correct location.



The filleted objects will be trimmed automatically to meet the fillet arc exactly at the tangent points.

Trim/Extend (TR)

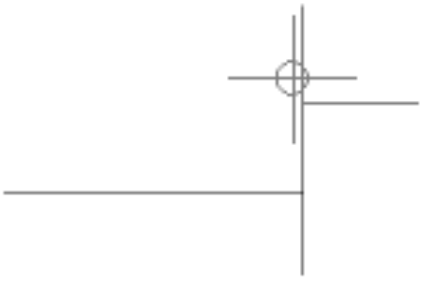
Use the Trim/Extend command when you want to trim or extend an object so it ends exactly at another object. You can use this command to trim or extend lines, continuous lines, arcs, and curves. For example, when creating an intersection you can trim or extend a line that represents one side of a street so it ends exactly at another line.

To trim or extend an object to another "target object":

1. Choose the Trim/Extend command.
2. Click the object to be trimmed.

Tip:
If you are trimming the object, be sure to click on the side of the object *that you wish to keep.*

3. Click the target object.



The first object will be trimmed or extended so it ends exactly at the second target object.

Double It Up (Offset, OF)

Use the Double It Up command to draw parallel objects to lines, continuous lines, polygons, curves, circles, arcs, and ellipses.

To draw a parallel object:

1. Select the object or objects to be copied and used as the "base" for the parallel object.

2. Choose the Double It Up command.

A Settings Bar will appear that displays the current "Offset distance." This is the distance between the original object and the new, parallel object that is to be drawn.

The Settings Bar also displays a check box marked "Fixed". When this box is checked, the offset distance is set to the value specified in the "Offset distance" box, and moving the cursor will simply allow you to pick on which side of the original object you want the parallel object to be drawn. If the Fixed box *is not* checked, the parallel object moves freely as you move the cursor, and the distance between the two objects is dynamically displayed in the Offset distance box.

Tip:
If more than one object is selected to be doubled up, a fixed offset distance must be entered, i.e. there is no rubberbanding preview as with single objects.

Double It Up continued

3. If you want to specify a numeric offset distance, check the Fixed box, and enter the desired offset distance in the Offset distance box.
4. Move your cursor from side to side of the original object and notice the preview of the parallel object being drawn.

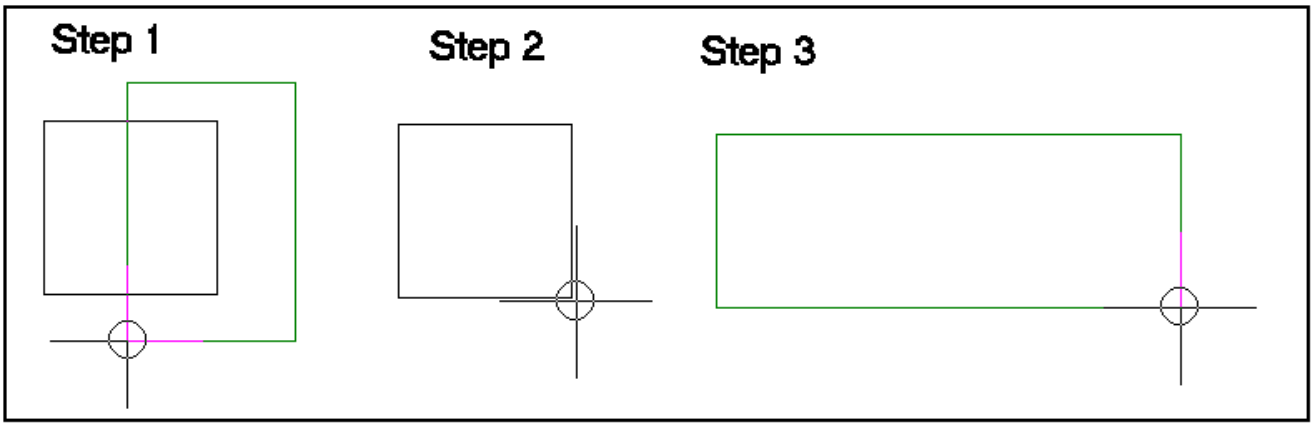
5. When the parallel object is in the desired location, click to place it.

Window Stretch (WS)

Use the Window Stretch command to stretch objects to a new size or shape. The area to be stretched is defined by two points set in opposite corners of a selection box. Then a point is set for the original location of the reference point. A second point is set for the new position of this point. The objects contained in the area are stretched so that the first point that was set is moved to the new location.

To stretch selected objects:

1. Select the Stretch command from the Edit/Modify menu or the Left-Hand Toolbox.
2. Set two points to draw a box that encloses the endpoints of the objects to be stretched (Step 1 below).
3. Set a reference point to define the original location (Step 2 below).
4. Set a point for the new location of the reference point (Step 3 below).



Cutout (CT)

Use this command to "cut-out" a selected portion of a drawing. The cut-out section remains selected so you can save it as a new diagram file or modify it using any of the commands found on the Edit menu.

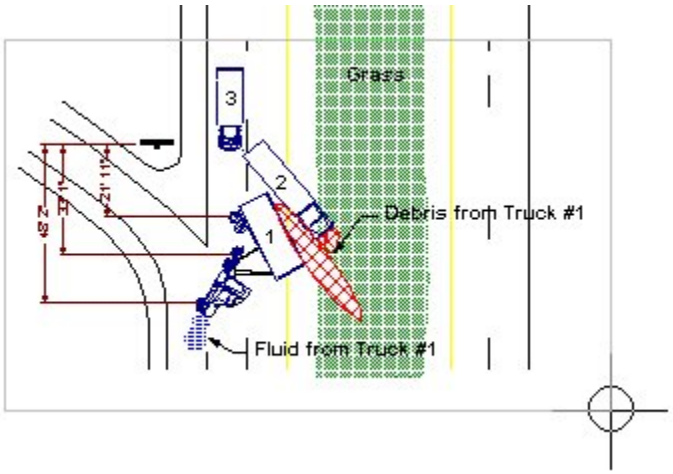
The Cut-out command works on any line, hatch, fill or text in the drawing, allowing for a more precise selection than was available in previous versions of the program.

To cut-out a section of diagram:

1. Choose the Cut-out command from the Edit menu.

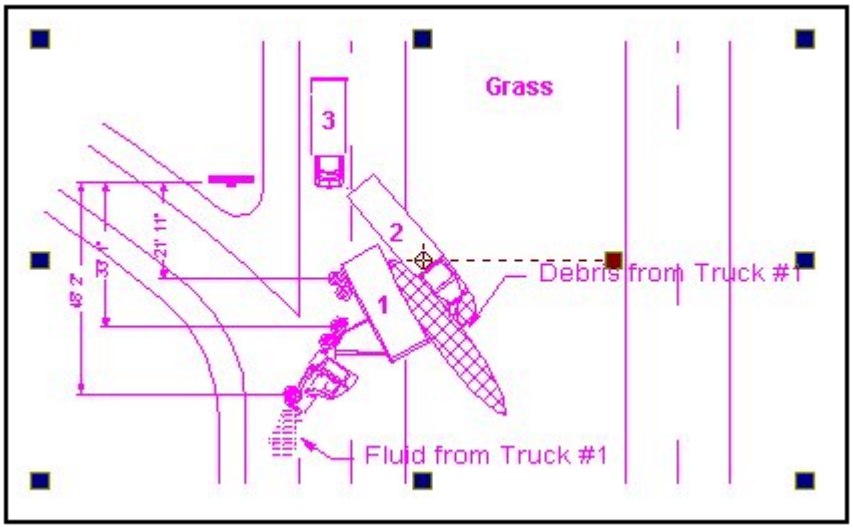
The message bar prompts you to place a polygon (selection window) around the region to be cut-out.

2. Click to place the first corner of the cut-out box just to the outside of the objects you wish to select.
3. Move your mouse to the other corner of the selection area and notice the selection window rubberbanding from your original point.



Cutout continued

4. When all the objects you wish to select are completely enclosed in the window, click the mouse again to finish the selection.



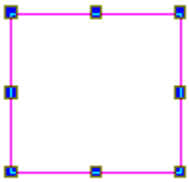
Any lines or objects that are enclosed in this box are now broken and remain selected so you can move, modify, or save them as a new diagram file.

Quick Copy (MC)

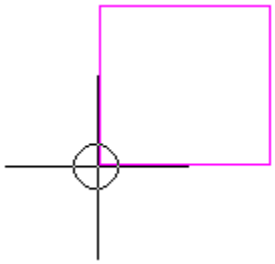
Use this command to make multiple copies of objects at user defined points within the drawing. Unlike the standard Copy or Rows & Columns Copy, this command allows you to continue to place individual copies by simply clicking until the command is ended.

To make quick, multiple copies of an object:

1. Select the object or objects you wish to duplicate.

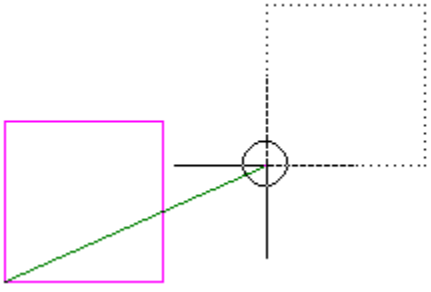


2. Click the Quick Copy Tool.
3. Click to define a reference point - the point at which the objects will be copied *from*.



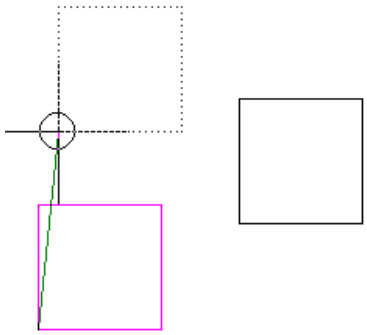
An image of the object now follows your cursor around the drawing area.

4. Click to place the reference point of the duplicate objects at the new point.



Quick Copy continued

5. Repeat step 4 as many times as desired
6. To end the command either double-click the mouse to place the last copy, or press the Enter key.



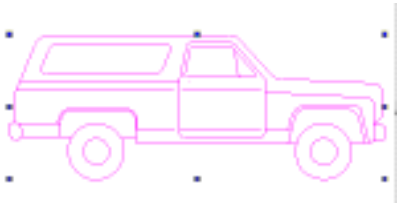
Tip: Press Escape on the keyboard if you wish to change the original reference point.

Explode Symbol (EX)

You use the Explode command to explode continuous lines or symbols that have already been placed in a drawing. You must explode symbols before you can change properties of the objects that make them up (like color, line width or line type). Symbols can be scaled or rotated but you cannot make design changes within a symbol unless you first explode it.

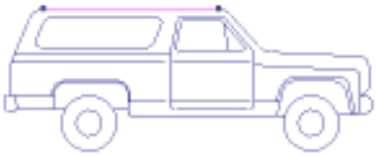
To explode symbols or continuous lines already placed in the drawing:

1. Select the symbol(s) or continuous lines that you wish to explode.



2. Choose the Explode command.

The objects are exploded into the entities that make them up. You can then select the individual objects and use the Edit command to change their properties.



You can also explode symbols *as you place them* so that instead of a symbol, the individual objects that make it up are placed in the drawing. To explode symbols as you place them:

1. Bring up the Symbol Manager.
2. Click the Explode Upon Placement button (the stick of dynamite) and make sure it is pressed which shows the option is turned on.
3. Select a symbol and place it in the drawing normally.

Click anywhere on the symbol that was just placed and notice that only an individual object is selected, not the entire symbol. This shows that the symbol is exploded.

Draw Menu

Line Single (LS)

Use the Single Line command to draw a single line by specifying a start and end point.

To draw a single line:

1. Choose the single line command.

2. Click or snap to place the starting point.

3. Click or snap to place the ending point.

Tip:
If you are drawing lines to exact measurements, you can use direction-distance entry to place the ending point. Just place the starting point, move the cursor in the direction you want the line to go and type in the line's length on the keyboard.

Tip:
When drawing lines you can use the Angle Draw buttons to restrict the cursor so it only moves at specific angles. This allows you to draw lines at exact angles.

Line Continuous (LC)

Use the Continuous Line command to create a continuous line consisting of one or more line segments. Continuous lines may be selected and edited as single objects.

To draw a continuous line:

1. Select the Continuous Line command.
2. Click or snap to place the starting point.

3. Click or snap to place the end point of the *first* line segment.

This point also becomes the starting point for the second line segment.

4. Place additional points to create the line segments of the continuous line.

5. To stop drawing line segments either double-click to place the last point or press the Enter key.

Tip:
If you inadvertently place a point in the wrong location, you do not need to abort the command and start over. Press the Esc key on the keyboard to “backspace” through the line segments you have placed, then make the correction and continue.

Arrow (AW)

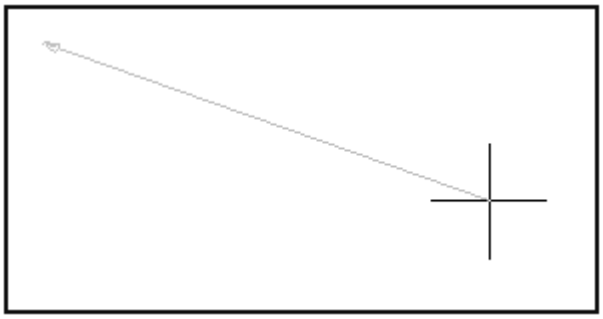
Use the Arrow command to create an arrow consisting of only one line segments.

To draw an Arrow:

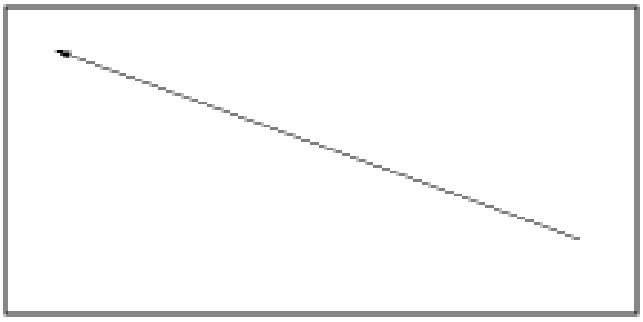
1. Select the Arrow command.

2. Set the Arrow properties on the Arrow Toolbox if desired.

3. Click or snap to place the starting point.



4. Either double-click to or press the Enter key to finish drawing the Arrow.

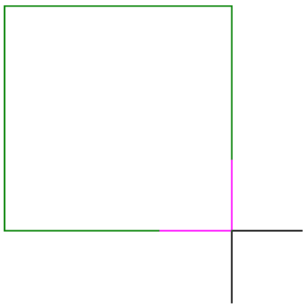


Rectangle Normal (R2)

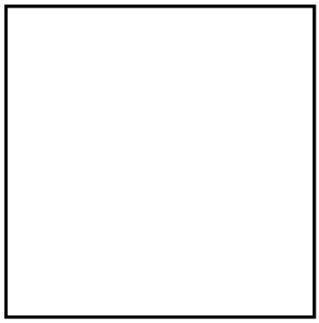
Use the Normal (Two-Point) Rectangle command to create a rectangle with exact horizontal and vertical sides.

To draw a normal rectangle:

1. Choose the Normal Rectangle command.
2. Place any corner of the rectangle. Move the cursor and notice the rectangle take shape.



3. Place the opposite corner.



Tip:
The ideal way to create a two-point rectangle to exact measurements is by using X and Y (horizontal and vertical) coordinate entry. In this mode, the second point (representing the diagonally-opposite corner) of the rectangle can be specified by entering the width and height of the rectangle, as follows:

Rectangle Normal continued

1. Click on the Coordinate Display toggle button on the Settings Bar to switch to X - Y coordinate entry mode.

2. Move the cursor up into the X coordinate text box and type in the length of the horizontal side of the rectangle.
3. Move the cursor up into the Y coordinate box and type in the length of the Vertical side of the rectangle.
4. Press Enter to complete the rectangle.
5. Click on the Coordinate Display toggle button to switch back to the normal Angle/ Distance mode of coordinate entry.

Rectangle Set Angle (R3)

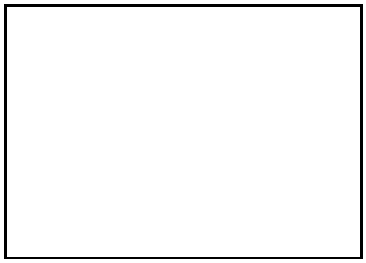
Use the Set Angle (Three-Point) Rectangle command to create a rectangle at any angle by defining its length and height with three points.

To draw a Set Angle rectangle:

1. Choose the Set Angle Rectangle command.
2. Place a point at any corner (vertex) of the rectangle.
3. Move the cursor in the direction of the next corner and click to place that corner.

4. Move the cursor perpendicular to the side you just drew. Notice the rectangle take shape.

5. Place a third point to complete the rectangle.



Rectangle Set Angle continued

Tips
In most cases, the second and third points can be placed using direct distance entry or a snap command. To use direct distance entry, click to place the first corner, move the cursor in the desired direction and type in the length of the side on the keyboard.

To draw a rectangle at a common angle such as 45 degrees, click to place the first endpoint then click on the desired Angle Draw button on the Settings bar. This restrains the cursor to move exactly at those angles. Click to turn Angle Draw mode off when you are finished.

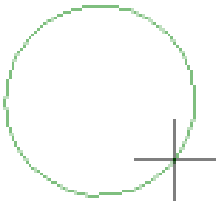
Circle (C2)

Use the Two-Point Circle command to create a circle when you know the location of the center point and the circle's radius, or the location of any point on the circumference (perimeter) of the circle.

To draw a two-point circle:

1. Choose the Two-Point Circle command.
2. Place the center point of the circle.

3. Place the second point on the circumference of the circle.



Tip
There are several ways you can place the second point:

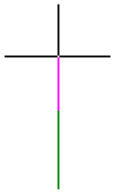
Using direct distance entry, you can simply type the radius on the keyboard.
If you know the diameter, you can use direct distance entry, and let Quick Scene calculate the radius for you. For example: if the diameter is 2' 3 3/4", you could type (2' 3 3/4")/2 as the radius.
Use any of the snap commands to place a perimeter point precisely at any location.

Arc 3-Point (A3)

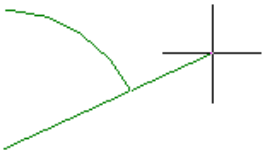
Use the Three-Point Arc command to create an arc when you know the beginning point, a point on the arc, and the endpoint.

To draw a three-point arc:

1. Choose the Three-Point Arc command.
2. Place the starting point for the arc.



3. Place any intermediate point on the arc.



A preview of the arc appears, connected on one end to the cursor.

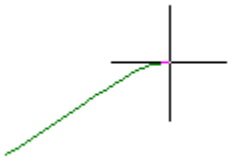
4. Place the endpoint of the arc.

Curve (CV)

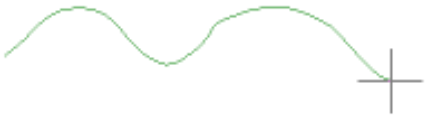
Use the Curve command to create a smooth curve that passes through each point you place.

To draw a curve:

1. Choose the Curve command.
2. Place the starting point of the curve.



3. Place as many points on the curve as needed to define it. (The curve will pass through these points).



4. Double-click to place the last point or press the Enter key to complete the curve.

Tips
Quick Scene provides snap, break, and trim commands that can be applied to curves. For example, you can trim a curve to a line, circle, or even to another curve.

Easy Intersection (IW)

When you first open the program the "Let's get started" toolbox is displayed.

Click the "Start from Scratch" button on the Let's Get Started dialog box.

Step One prompts you to click in the Drawing Name field and type in the desired name of your drawing.

Click in the Drawing Name field and type: tutorial

Step Two prompts you to pick the approximate site size. Choose from small, medium, large or custom size options.

Click the "Medium - 200 ft. long" radio button option.

Step Three prompts you to select a method of adding an intersection.

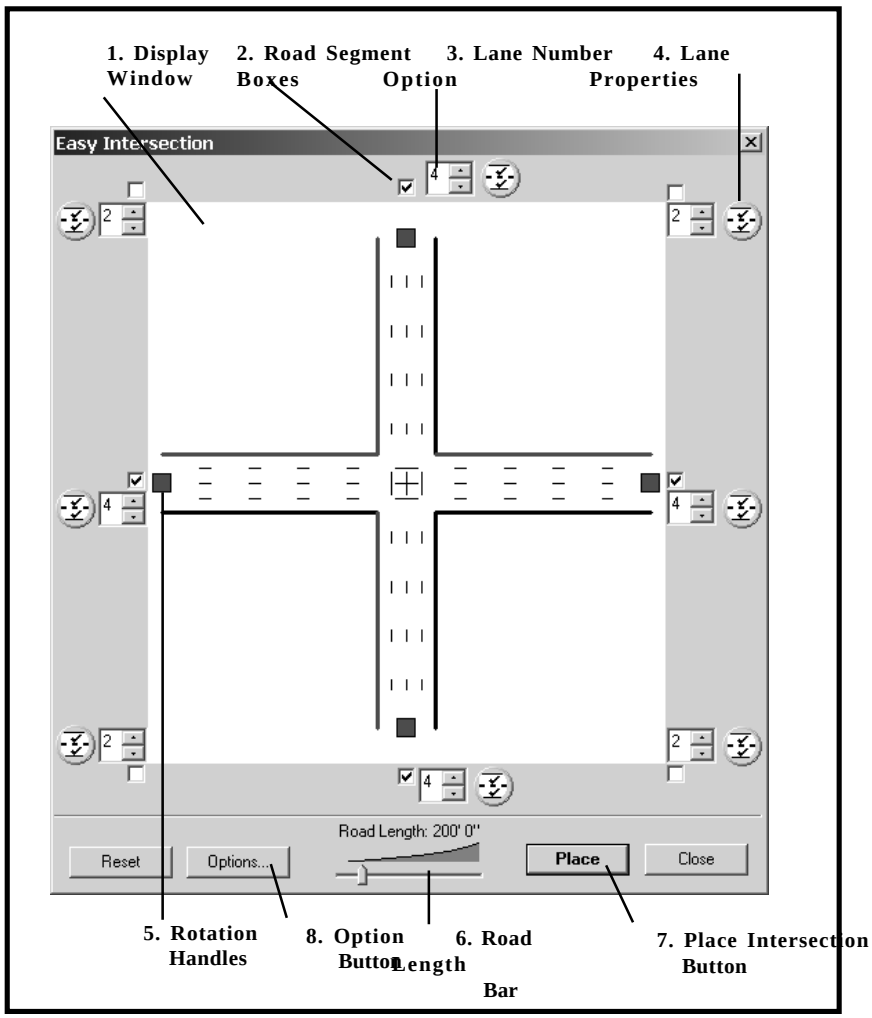
Select the "Build Intersection" radio button option and click the OK button to open the "Easy Intersection" toolbox.

The Easy Intersection wizard allows you to create an intersection by simply clicking and selecting from the various options. (You may also display the Easy Intersection Toolbox at any time by clicking on the button labeled Easy Intersection on the left-hand toolbox.)

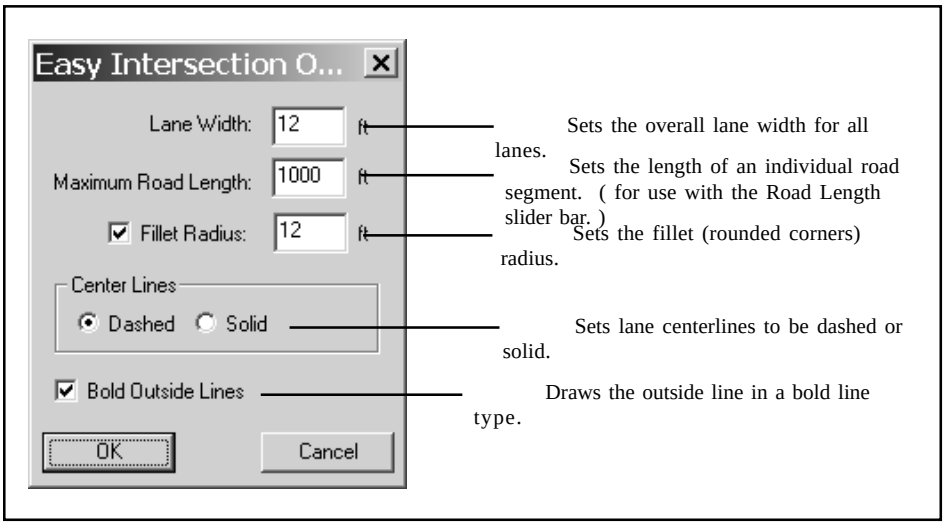
Easy Intersection continued

Features on the Easy Intersection toolbox:

1. **Display Window** - This is where you view the intersection model as it is being built.
2. **Road Segment boxes** - Check mark the road segment boxes to add a road segment to the intersection.
3. **Lane Number Option** - Click the arrows to increase or decrease the number of lanes in each road segment.
4. **Lane Properties Option** - Click the round Lane Properties button to change the line types and widths in the selected road segment.
5. **Rotation Handles** - Drag this square to rotate the road segment to a new angle.
6. **Road Length Bar** - Move the slider arrow to increase or decrease the overall road length.
7. **Place Intersection Button** - Click to place the completed intersection in your drawing.



8. Options button - brings up the following dialog box with the following options


Easy Intersection O...
Lane Width: 12 ft
Maximum Road Length: 1000 ft
Fillet Radius: 12 ft
Center Lines
Dashed
Solid
Bold Outside Lines
OK
Cancel
Sets the overall lane width for all lanes.
Sets the length of an individual road segment. (for use with the Road Length slider bar.)
Sets the fillet (rounded corners) radius.
Sets lane centerlines to be dashed or solid.
Draws the outside line in a bold line type.

Lane Width - Sets the overall width for all the lanes of the roads.
Road Length - Set the maximum length of the road segments. This number determines how big you can make the intersection when using the Road Length slider. (Ex. By setting the maximum length to 1000 feet, picking two segments opposite of each other would create an overall intersection length of 2000 feet.
Fillet Radius - Used to round the corners of the intersection. Un-check the box next to Fillet Radius if you want square corners (90 degrees).
Center Lane Type - Set to determine either dashed or solid center lines. If you want a different line type (such as a double solid center line), select the line to be changed and choose one of line types from the Quick Pick or the Line Types menus.

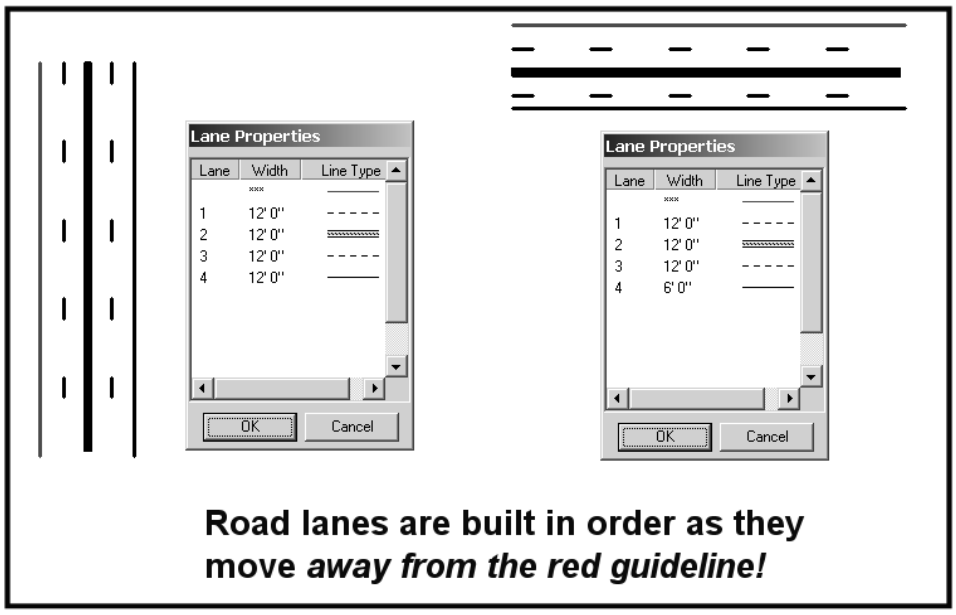
To Draw an intersection using the Easy Intersection toolbox;

1. Select Easy Intersection from the Left-hand Toolbox.
2. Build the intersection you want to place in the diagram by checkmarking the desired road segment boxes.
3. Click the arrows in the Lane boxes to increase or decrease the number of lanes in each road segment.
4. Click the round Lane Properties button to change the line types and widths in the selected road segment.

Use the Lane Properties feature to change lane widths and centerline types for each lane in the selected road segment. The number of lanes displayed in the toolbox relate directly to the selected road segment. For instance if your road segment contains four lanes, then four editable lane segments will appear in the lane properties toolbox.

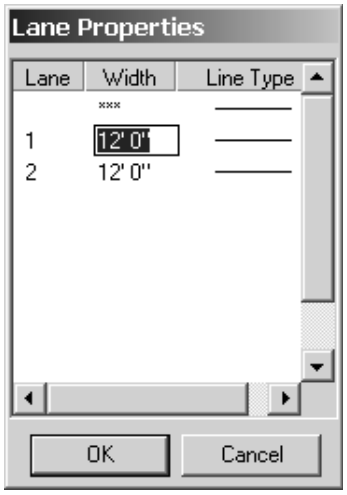
You can enter a width and line type for each individual lane up to ten lanes. The red "guideline" in the preview indicates the first edge of the road segment and cannot be changed until after the intersection is placed in the diagram. The remaining lines are shown in order as you move away from the red guideline.

To change the lane width in the properties toolbox:



A. Click in the Width column for the lane to be edited and backspace over the existing text.

B. Type in the new width (ex. 12') of the lane and press Enter or click in another lane width column.

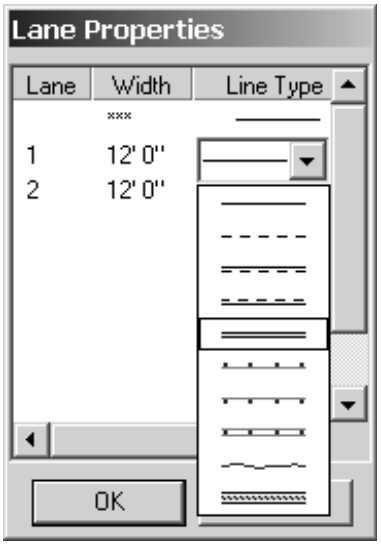


Editing the Lane Width.

To change the line type of a selected lane:

A. Click in the Line Type column of the lane to be changed to display a drop-down a list of centerline and guardrail types.
B. Click on a desired line type from the drop-down menu to select it.

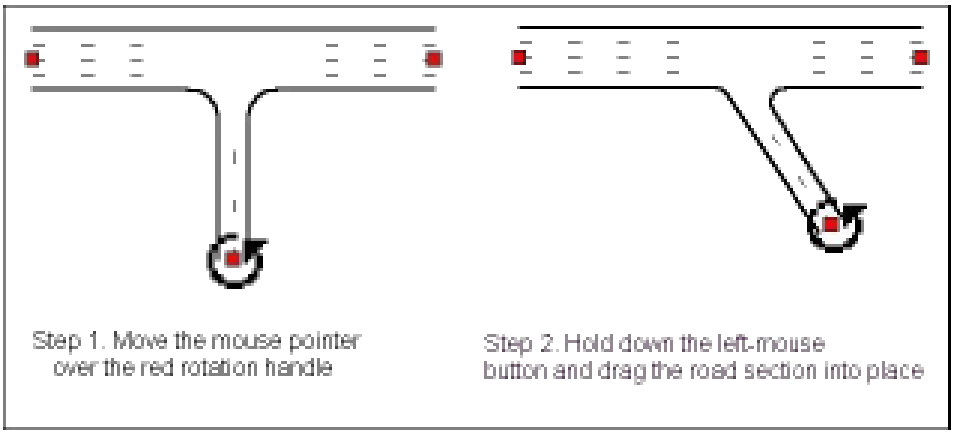
Click the OK button at the bottom of the toolbox to apply the new setting to the road segment.



Changing the line type

5. Move the Road Length slider to the left or right to increase or decrease the length of the road segment.

6. Click and hold on the red rotate handle to adjust the angle of a section, if needed.


Step 1. Move the mouse pointer over the red rotation handle
Step 2. Hold down the left-mouse button and drag the road section into place

7. Click on the Place Intersection button to place the intersection on the drawing screen.

At this point you can add symbols, text, and dimensions. You can also use the edit/modify commands to stretch different segments of the intersection or break and cut out sections of the roads to show driveways or other openings.

Easy Streets (EZS)

The Easy Street toolbox allows you to convert a *selected* line, arc, curve, or circle into a roadway. You select options on the toolbox to define the number of lanes, individual lane widths, and centerline types.

To draw a street or road using Easy Streets:

1. Draw a single line, arc, or curve that will be the guide, or reference object, for the street.
2. Click on the reference object to select it.

You may draw multiple objects attached together to define the street, for example by attaching an arc or curve to a line. Once the lanes are defined with the Easy Streets toolbox, you can quickly apply them to each part of the street.

3. Select the Easy Streets command from the right-hand Toolbox.
4. Click in the box to "turn on" each lane. A lane that is turned on is marked with an X.

You can define a road of up to ten (10) lanes.

5. Enter a width for each individual lane.
6. Click in the Line Type column for each lane to bring up a pull down list of centerline types. Select a centerline type for each lane.

The number of lanes and centerline types is displayed in a preview window at the top of the Easy Street toolbox.

7. If you have not already selected the reference line in the diagram, you can do so now.

Three buttons at the bottom of the toolbox allow you to change how the lanes are applied to the reference line, whether the reference line is at the top, center, or bottom of the lanes.

8. Click on the "OK - Apply" button.

The lanes you've defined will appear on the screen referenced off the guideline you selected. You can still toggle between the different reference line buttons at the bottom of the toolbox and see the effect in the drawing. You can also change the line type and lane settings on-the-fly and see the changes reflected in the diagram.

9. When you're satisfied with the street click on the "FINISH" button. Note: The "Apply Road" button changes to "FINISH" once the lanes have been applied.

From this point you can select the next line, arc, or curve and then click the Apply button to apply the same lanes to another section of the street. Alternatively, or you can build a completely new model.

Other features available on the Easy Streets Toolbox:

Easy Streets continued

Erase Guideline - The "Erase Guidelines" button is located next to the "Apply Road" button. This button is a toggle that is ON when depressed. If it is ON then the selected guideline will be erased when you click on "FINISH."

Reset - The first time you click the "Reset" button all of the lanes will reset themselves to 12 ft. wide. Then second time you click "Reset" the lanes will reset back to two lanes with a dashed centerline. Note, if you have more than two lanes but they're all set to 12 ft., then the first time you click on "Reset" the values will go back to two lanes with a dashed centerline.

Intersection Clean - This feature is the same as the Multi-Lane Intersection Clean command on the Modify menu. Use it to erase the unwanted lines that run through the center of the intersection. Refer to the help on that topic for more information.

Symbol Manager

Symbols are collections of objects that are grouped together, named, saved, and then placed and manipulated as a single object. You can insert them repeatedly in the same drawing, or save them on disk for use in future drawings. This saves you the time that would be necessary to draw the same objects over and over, and also provides some additional advantages. For example, each symbol is defined just once in the drawing definition, so that repeated placements of the same symbol have little impact on drawing file size. The same symbol can be inserted in different locations, and at different rotations and sizes. You can create symbols yourself from objects you have drawn or use the pre-drawn symbols included with The Diagram Program.

Symbols can consist of anything you want, such as a vehicle, a fire hydrant, or even an entire intersection. When you create a symbol you assign it two “handle” points that determine how the symbol is aligned when you place it into a drawing. Once placed in a diagram you can only modify a symbol if you first “explode” it into its various components.

For more information on how to use symbols see the descriptions of the specific commands below. In general, you work with symbols in The Diagram Program like this:

Create symbols with the Create Symbol command found on the Draw menu, under the Symbol Tools sub-menu (YC command on your keyboard). To create a symbol you select the objects to make it up, assign the symbol a name and assign it two handle points. See the Create Symbol command description below for more information.

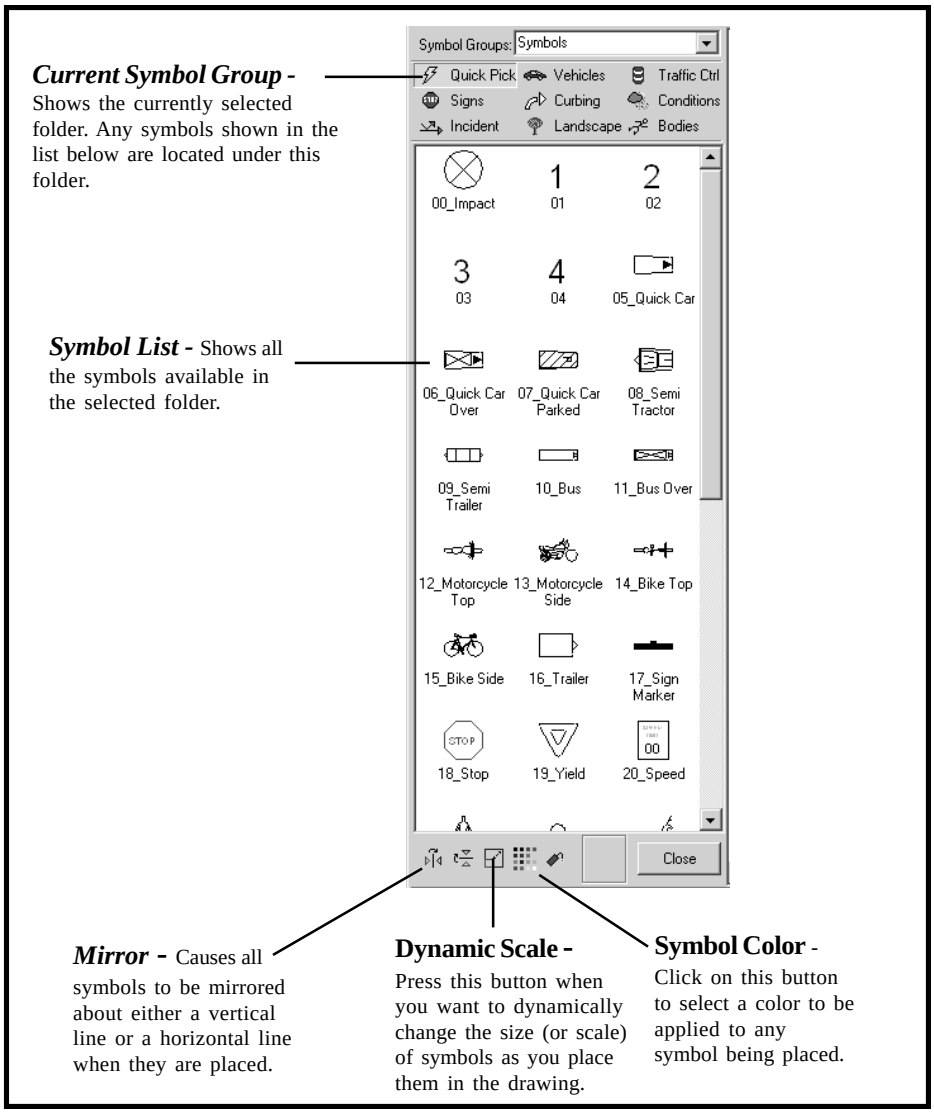
Preview what symbols are available to you and select symbols to place in your diagrams from the Symbol Manager. The pre-drawn symbols that are included with The Diagram Program are all stored in sub-groups under the Symbols folder of your main program folder. See the description of the Symbol Manager toolbox below for more information.

Preview what symbols are available to you and select symbols to place in your diagrams from the Symbol Manager. To place a symbol in your drawing simply select it from the appropriate folder in the Symbol Manager (by clicking on its name) and then place the symbol handles by clicking or snapping to specific points in your drawing. From Symbol Manager you can also select options that affect how the symbol is to be placed such as it’s color and whether it is mirrored on placement. You can also choose whether you want to dynamically size and rotate the symbol as it is placed, or place it at its default size and rotation.

Once you have placed a symbol into a drawing you can divide it back into its individual component entities with the Explode command. First select the symbol (or symbols), select the Draw menu, select Symbol Tools, and then select Explode. You can also explode symbols as you place them by selecting the Auto Explode icon from the Symbol Manager.

Symbol Manager continued

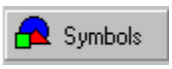
Select symbols for placement and choose from the various symbol options on the Symbol Manager dialog box. To display the Symbol Manager click on the button labeled Symbols on the left-side toolbox. To return to the standard toolbox when you are finished placing symbols click on the Close button at the bottom of the Symbol Manager.


Current Symbol Group - Shows the currently selected folder. Any symbols shown in the list below are located under this folder.
Symbol List - Shows all the symbols available in the selected folder.
Symbol Groups: Symbols
Quick Pick
Vehicles
Traffic Ctrl
Signs
Curbing
Conditions
Incident
Landscape
Bodies
00_Impact
01
02
03
04
05_Quick Car
06_Quick Car Over
07_Quick Car Parked
08_Semi Tractor
09_Semi Trailer
10_Bus
11_Bus Over
12_Motorcycle Top
13_Motorcycle Side
14_Bike Top
15_Bike Side
16_Trailer
17_Sign Marker
18_Stop
19_Yield
20_Speed
Close
Mirror - Causes all symbols to be mirrored about either a vertical line or a horizontal line when they are placed.
Dynamic Scale - Press this button when you want to dynamically change the size (or scale) of symbols as you place them in the drawing.
Symbol Color - Click on this button to select a color to be applied to any symbol being placed.

To place a symbol in a diagram:

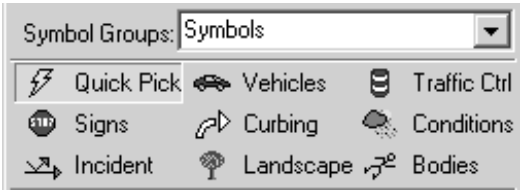
The first step to placing a symbol in your diagram is to select the desired symbol from the Symbol Manager list.

1. Select the Symbols button from the left-hand toolbox to bring up the Symbol Manager (or select it from the Draw menu).

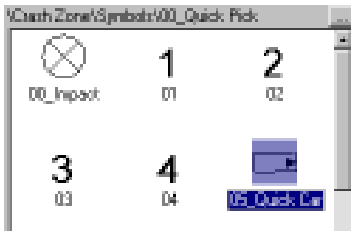


Symbol Manager continued

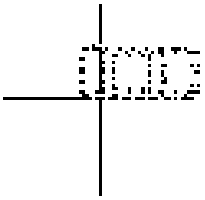
2. Select the symbol group where the desired symbol files are located by clicking on the group name in the upper portion of the Symbol Manager.



3. Click on any symbol in the lower symbol list.



4. Move the cursor back into the drawing window and you will see a ghost image of the symbol attached to the cursor.

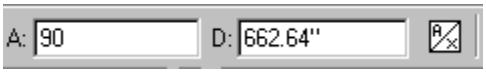


Once a symbol has been selected you can double click the mouse to place it at its *default* orientation. The default rotation of the symbol is the orientation as it is shown in the preview window. To place the symbol at another angle, you either use one of the Angle Draw Buttons or use the mouse to rotate the symbol, as follows:

5. Click or snap to an existing point to place the first handle of the symbol (where the cursor is located).
6. Move the cursor and notice that you can rotate the symbol as you move the mouse. Look at the Angle box (labeled A:) in the upper-left area of the screen to see the current rotation of the symbol.

Symbol Manager continued

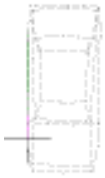
7. Type in an exact rotation angle in the Angle box or move the mouse until the symbol has the desired rotation angle.



-Or-

7. Click one of the Angle Draw Buttons to constrain the symbol to a specific rotation angle. For example, select the Vertical/Horizontal Angle Draw Button to rotate the symbol at 90°.

8. Move the cursor to establish the symbol's direction.



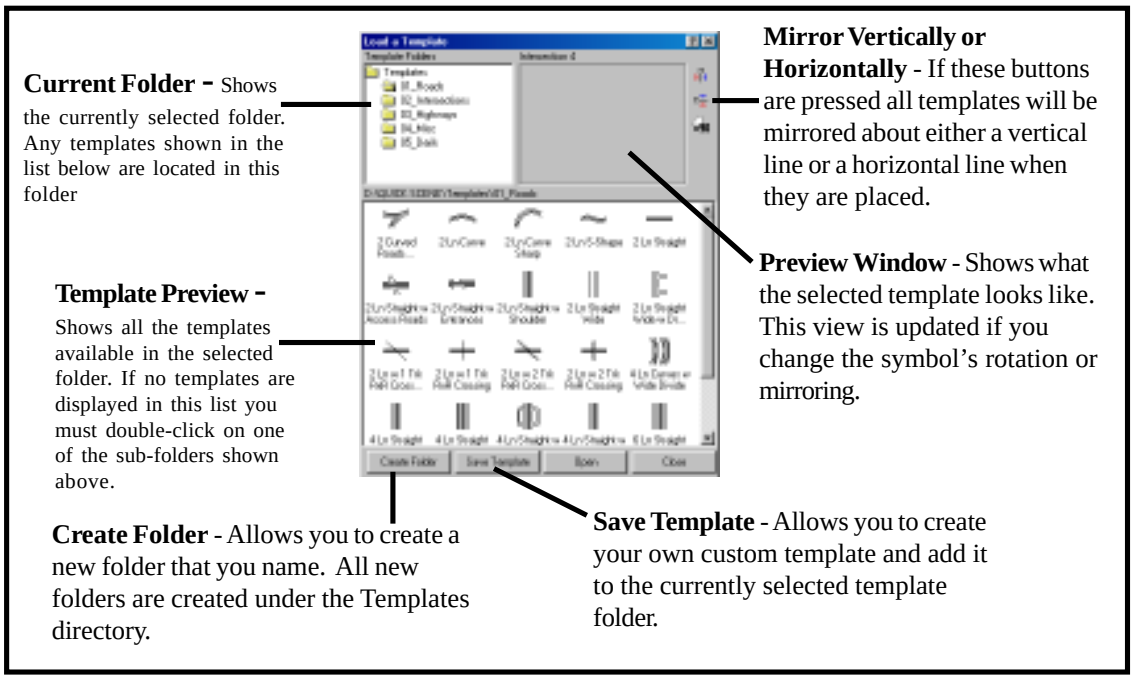
9. Click the left-mouse button to finish placing the symbol.

Templates

The "Load a Template" toolbox allows you to preview and select pre-drawn templates roads and intersections. The pre-drawn templates that are included with the Diagram Program are all stored in sub-folders under the main Templates folder. You may also display the Templates Toolbox at any time by clicking on the button labeled Templates on the left-hand toolbox.

To place a template in your drawing simply select it from the appropriate folder in the templates toolbox (by clicking on its name) and clicking Open Template. Then place the template in the diagram by clicking or snapping to a specific point in your drawing.

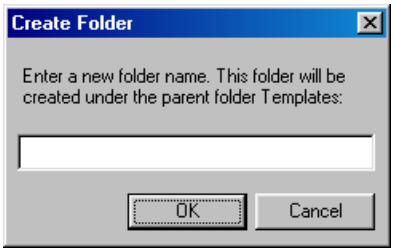
1. Select the Template button from the right hand toolbox to open the "Load a Template" toolbox.
2. Select the desired Template folder from the Template toolbox clicking on the folder name in the upper portion of the templates toolbox.
3. Click on any template name and notice a preview of the symbol appears in the upper-right of the toolbox.
4. Click the Open Template button and move the cursor back into the drawing window. Notice an outline of the template attached to the cursor.
5. Click the left-mouse button (or snap to an existing point) to place the template in the drawing window.


Current Folder - Shows the currently selected folder. Any templates shown in the list below are located in this folder
Template Preview - Shows all the templates available in the selected folder. If no templates are displayed in this list you must double-click on one of the sub-folders shown above.
Create Folder - Allows you to create a new folder that you name. All new folders are created under the Templates directory.
Save Template - Allows you to create your own custom template and add it to the currently selected template folder.
Mirror Vertically or Horizontally - If these buttons are pressed all templates will be mirrored about either a vertical line or a horizontal line when they are placed.
Preview Window - Shows what the selected template looks like. This view is updated if you change the symbol's rotation or mirroring.

The Template Toolbox

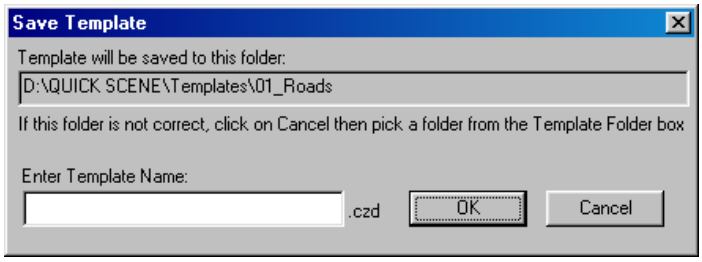
Templates

To create a new folder in the Templates directory:
1. Click the Create Folder button on the Template toolbox.
2. A "Create Folder" Dialog box will appear prompting you to enter a name for the folder.



3. Click in the blank field, type the desired name of the folder, and click the OK button.
4. The new folder is saved under the Templates directory.

To create and save a new Template:
1. In the Template toolbox navigate to the desired folder where you want the custom template to be saved.
1. Click the Save Template button on the Template toolbox.
2. A "Save Template" dialog box will appear prompting you to save the new template in the currently selected folder. If this folder is not correct, click the Cancel button and repeat Step One.


Save Template
Template will be saved to this folder:
D:\QUICK SCENE\Templates\01_Roads
If this folder is not correct, click on Cancel then pick a folder from the Template Folder box
Enter Template Name:
.czd
OK
Cancel

3. Click in the "Enter Template Name" field and type the desire name of the custom template.
4. Click the OK button to save the new template in the selected template folder.

3D View (M3)

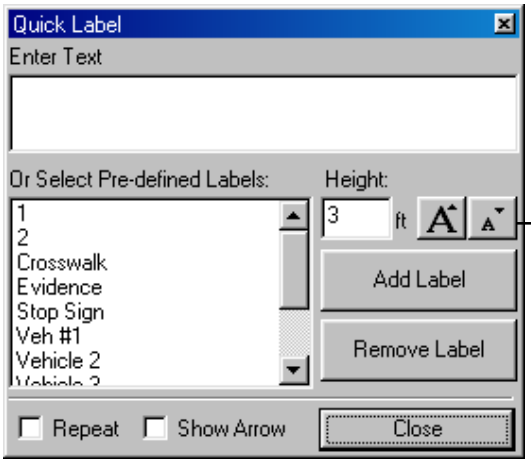
Takes you from the 2D program to the 3D Viewer. The 2D program is not shut down but remains active with the 2D plan view drawing still loaded. You can make changes to the 2D plan diagram at anytime, by simply clicking the "Close and Return to 2D Program" button on the 3D viewer speedbar. After making any additional changes to your diagram, you may load it into the 3D viewer again. This process can be repeated as many times as you like working back and forth between the Diagram Program and the 3D Viewer until your diagram is perfect.

Quick Label (QL)

You can use the Quick Label command to create any text for notes and labels in your drawings.

To place text with the Quick Label command:

1. Choose the Quick Label command.
2. Click in the Enter Text field in the upper portion of the text toolbox.



3. Type in the desired text.
4. If necessary, adjust the size of the text by clicking on the "larger" or "smaller" text buttons.

When you move the cursor down into the drawing window a bounding box appears which expands as you change the text in the text box. This box shows the currently selected size and rotation for the text.

5. Click or snap a point to anchor the lower-left corner of the text.
6. Move the cursor and notice that you can rotate the text around the anchor point.
7. When the text has the desired rotation angle, click or snap to finish placing it. To place the text horizontally you can simply press the Enter key for the final point.

12314 SE Market

Checkmarking the "Repeat" option on the toolbox allows you to keep placing the same text or leader

Quick Label (QL) continued

over and over again in the diagram.

To edit text once it is placed in the drawing simply select the desired text by clicking on it and re-select the Text button from the left-hand toolbox. The text toolbox appears with the selected text in the Text field. Make any changes to the text and the OK button to place the new text back in the diagram.

The Text toolbox contains many predefined text labels but you can also add and remove your own labels.

To add a label to the text toolbox:
1. Type the desired label in the Enter Text field.
2. Click the Add Label button.
3. When prompted to add the label, click the yes button.

The label now appears in the predefined label list.

To remove a predefined label:
1. Select the label to be removed from the label list.
2. Click the Remove Label button.
3. When prompted to remove the label, click the Yes button.

The label is now removed from the label list.

You may also place a Leader using the Quick Label feature by checkmarking the “Show Arrow” option. Leaders (or “call-outs”) are notes that identify or call attention to objects or areas in the drawing. An arrowhead-tipped line connects the object to a block of text.

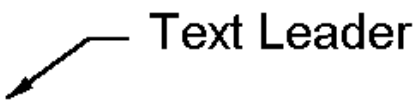
To place a leader:
1. Checkmark the Show Arrow option on the Templates toolbox.
2. Type the leader text in the EnterText field.
3. Change the Text height on the dialog box, if desired.
4. Move the cursor and notice a ghost image of the leader attached to the cursor.

5. Click or snap to set the tip of the arrowhead.
6. Click to set the second endpoint of the leader.

Quick Label (QL) continued

The leader text will appear next to the leader shoulder. As you move the cursor to the left or right, the leader text will "flip" to the opposite side of the shoulder. Remember that the final segment or "shoulder" will be drawn automatically to connect the leader lines to the text block.

7. When the text is placed where desired, click to place the leader text.

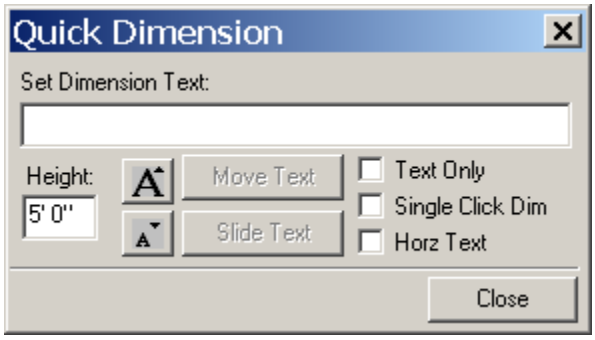


Quick Dimension (QD)

Use the Dimension command to measure a distance and display it in the drawing. Often, linear dimensions are used to show the length of an object, like a wall. They can also show the distance between objects, or any other distance.

To place a linear dimension:

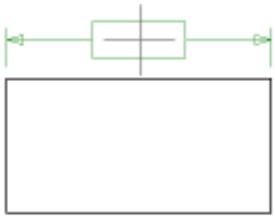
1. Choose the Dimension Linear command.
2. The dimension settings are displayed on the Dimension Toolbox; make any changes you wish, such as text height, then proceed with the dimensioning operation.



3. Place the starting point for the dimension. The first point should be placed precisely with one of the Snap commands, since it will be the basis for the measurement.

Quick Dimension continued

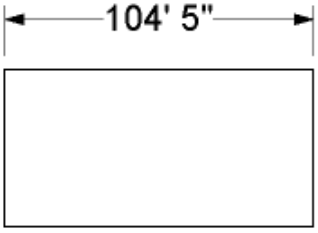
4. Snap to select the ending point for the dimension.



As you move the cursor, a dynamic preview of the dimension now appears, constrained to move perpendicular to the dimension direction. You can place the dimension on either side of the line you are measuring. If you don't like the dimension settings (such as the size of the text) you can dynamically change them on the dialog box. Move the cursor back down into the drawing window to see the changes take effect on the dimension.

Tip:
You can overwrite the text of the dimension by clicking in the dimension text field and entering a new value. This text will be placed in the dimension instead of the actual measurement between the two points.

5. Drag the dimension line to the desired location away from the dimensioned object and place a point to set the dimension line and complete the dimension.



Quick Dimension continued

Also available on the Dimension dialog box is are the "Move Text" and "Slide Text" features. These features are only available as an editing feature to be used on Dimension text that has *already* been placed in the diagram.

To use either Move Text or Slide Text
1. Click on the existing dimension text that you wish to edit.
2. Select the Edit feature from the Speedbar or Draw/Edit menu.
3. When the Dimension Text dialog box appears on the screen, click either the Move Text or Slide Text button depending on which command you wish to use.

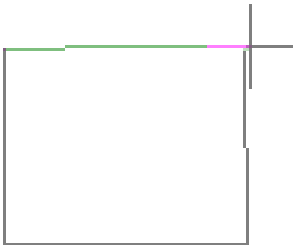
The Move Text option allows you to move the text *away* from the dimension legend line.
The Slide Text option allows you to slide the text *along* the dimension legend line.

Hatch Trace Boundary (HB)

Use the Hatch Trace Boundary command to draw a hatch pattern or solid fill within an area that you specify by placing points, as follows:

1. Choose the Hatch Trace Boundary command.
2. Select the desired hatch pattern from the Draw/Edit commands on the left-hand toolbox.
3. Select the desired color from the Set Line/Color commands on the left-hand toolbox.
4. Click or snap to place points to define the boundary that will enclose the hatch pattern.

Rubberband lines are displayed connecting the cursor to the last point placed and to the first point placed. These lines provide a preview of the area to be hatched.



5. When finished defining the area to be hatched, press Enter or double click to place the final point.

The defined area will be filled with the selected pattern or solid color.

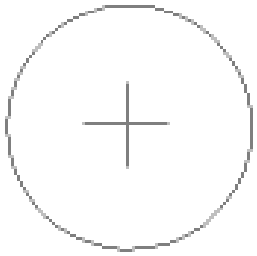
Hatch Pick Area (HD)

Use the Hatch Pick Area hatch command to add a hatch pattern or solid fill to closed objects such as circles, polygons, rectangles, polygons, etc.

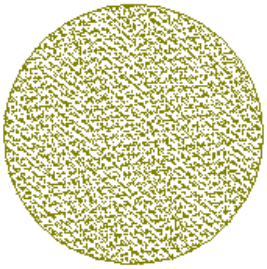
Tip:
Closed objects located inside other closed objects remain unhatched.

To draw a hatch pattern within selected objects:

1. Choose the Pick Area command. (Remember that the objects must be closed (sharing the same beginning and end point).
2. Select the desired hatch pattern from the Draw/Edit commands on the left-hand toolbox.
3. Select the desired color from the Set Line/Color commands on the left-hand toolbox.
4. Click inside the area to be hatched.



The enclosed object will be filled with the currently selected hatch pattern or solid fill.



Tip:
If there are 100 or more objects on screen when you select the Pick Area command Quick Scene will prompt you to narrow the list of entities to include using selection methods.

View Menu

Redraw (RD)

Use the Redraw command to refresh the screen. When you move or erase an object, its old location is redrawn with the background color. This effect tends to break up or obscure remaining objects that it overlapped or intersected. You can use the Redraw command to clean up the screen after this happens. This command is especially useful when editing lines drawn on top of each other or objects that overlap. When you execute the Redraw command, the objects are redrawn in the order you drew or edited them.

To redraw the display:

Choose the Redraw command.

The screen is immediately redrawn.

Tip:
For a large drawing press the Esc key during redrawing to terminate the process. This can save you time if you only need to redraw a portion of the drawing.

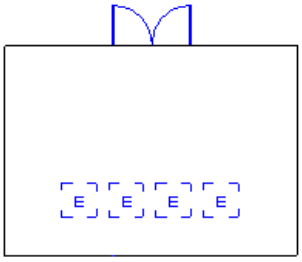
Zoom All (ZA)

Use the Zoom All command to see the entire drawing. This helps you get an overview of what you have drawn, and also helps you find objects that may have been accidently placed far from the main drawing area. These objects can cause problems when you load a drawing or try to plot or print using the “Fit to Page” option.

To Zoom All:

Choose the Zoom All command.

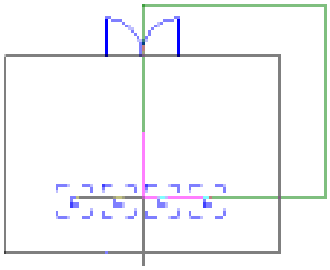
The screen is redrawn so the entire drawing (everything on the currently displayed layers) fills the screen.



Zoom Window (ZW)

Use the Zoom Window command to select a portion of the drawing and enlarge it so it fills the entire screen. To zoom in on a portion of the drawing:

1. Choose the Zoom Window command.
2. Click once above and to the right of the area to be enlarged.
3. Move the cursor downward and to the left and notice the zoom window take shape.



4. When the desired portion of the drawing is completely enclosed in the zoom window, click again to complete the window.

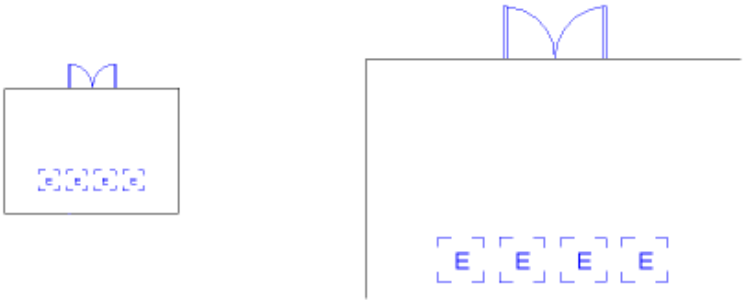
The area enclosed by the window is enlarged to fill the screen.

Note:
Place the two points that form the Zoom Window on any two diagonal corners.

Zoom In (ZI)

Use the Zoom In command to quickly magnify the current screen image by a factor of 2. The image on the screen is made twice its size and is magnified relative to a point at the center of the screen.

To zoom in on an image:
1. Choose the Zoom In command.



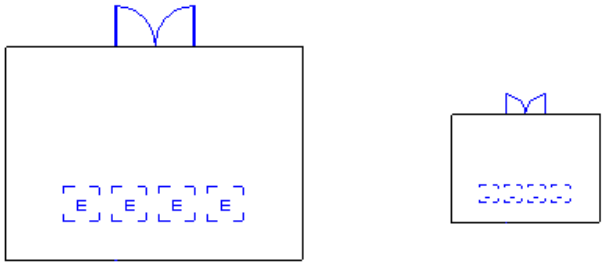
The drawing is redrawn at the new magnification.

Zoom Out (ZO)

Use the Zoom Out command to quickly reduce the current screen image by a factor of 1/2. The image on the screen is made half its size and is reduced relative to a point at the center of the screen.

To zoom out on an image:

1. Choose the Zoom Out command.



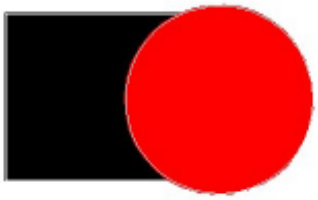
The drawing will be redrawn at the reduced magnification.

Bring to Front (TF)

As you draw, type, or import objects, each object is positioned in a stacking order (the order in which objects overlap one another on the same layer within a page). You can change the order at any time. Bring to Front moves selected objects to the front of any overlapping objects.

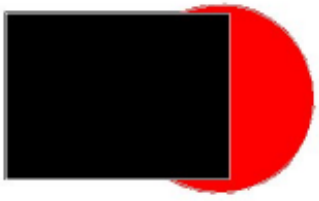
To use the bring to front command:

1. Select the object that is to be brought to the front of the overlapping object.



2. Select the Bring to Front command from the View menu.

3. The selected object is brought to the front of the overlapping object.



Send to Back (TB)

As you draw, type, or import objects, each object is positioned in a stacking order (the order in which objects overlap one another on the same layer within a page). You can change the order at any time. Send to Back moves selected objects to the back of any objects it is overlapping.

To use the send to back command:

1. Select the object that is to be sent to the back of the overlapping object.

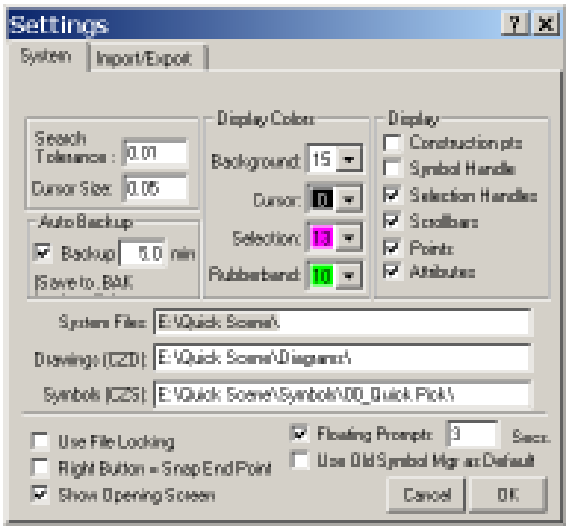
2. Select the Send to Back command from the View menu.

3. The selected object is sent to the back of the overlapping object.

Drawing Aids

Preferences (PX)

These options control the amount of visual feedback you receive on screen as you draw or edit. Turning these functions off can reduce the time required to edit large selection sets, since highlighting or dragging large groups of objects can take a considerable amount of time.



System Options

- **Search Tolerance** - Sets the maximum distance in on-screen inches (meters), the cursor may be from an object for The Diagram Program to snap to it or select it. This also sets the tolerance used for Auto Snap mode; if Auto Snaps is turned on, the program searches for the closest endpoint or object that is within the Search Tolerance distance.
- **Cursor Size** - Specifies, in on-screen inches (meters), the size of the cursor's horizontal and vertical crosshairs. For example, a value of 1.0 sets the cursor size to 1 inch. To specify a full-screen cursor, type 0.
- **Auto Backup** - If Backup is checked, The Diagram Program will automatically save your work with the existing file name. When checked, all named drawings, in all document windows will be saved at the specified interval. Only drawings that are named and have changed (i.e., entities added, deleted, moved, etc.) will be automatically saved. Named drawings to which no changes have been made will not be saved. If you have not yet assigned a name to the drawing, Auto Backup will perform a "Save As" and prompt you to enter a file name.
- **Min** - Specifies the interval, in minutes, at which drawings will be automatically saved. The Diagram Program will not save at the specified interval if a dialog box, such as the Text Editor or Assign Script, is open or a tool is active. Once the dialog is closed or the operation completed the file is saved.
- **Use File Locking** - When checked, subsequently opened drawings cannot be modified by another Diagram Program user on your network until the drawing is saved or closed. Other users can only open, view, and copy the drawing.
- **Right Button = Snap End Point** - Programs the right-mouse button to perform a Snap End Point (closest point) instead of bringing up the context sensitive menu. This is especially useful for compatibility with previous versions of The Diagram Program.
- **Show opening Screen** - Specifies whether the Learning Center splash screen is loaded upon opening.

Display Colors Options
These options let you change the color of the drawing background, cursor, selected objects, and the rubberband line. Clicking on any item displays a drop-down list of available colors.

Note:
Choosing a background color changes only how the drawing appears on the screen. Because The Diagram Program does not print or plot the background, the background color does not affect printed output.

Display options
These options let you determine how or whether certain items are displayed on the screen as well as in a print or plot of the drawing. Turning off the display of some of these items can reduce the visual clutter in the drawing and increase the speed of redraws.

- **Construction Points** - Specifies if geometric construction handle points are displayed and printed or plotted.
- **Symbol Handles** - Specifies if symbol handle points are displayed.
- **Selection Handles** - Specifies if selection handle points are displayed when an object or objects are selected.
- **Scrollbars** - Specifies if the scrollbars are to be displayed on the screen or not.
- **Points** - Specifies if drawing points are to be displayed on the screen or not.

Import/Export Tab

This tab allows you to set the base measurement units that the drawing will imported as. You can also choose whether color numbers are to be preserved in the translations (this option may be more important for users of pen plotters, even though this may cause object colors to change), or if the colors numbers should be changed so that the on-screen colors are preserved during the translation (this option should be selected if it is more important for the drawing to look the same after translation).

Reset (RV)

Use this command to restore all the default environment settings that are in effect when you first install The Diagram Program. These settings include all options found on the Settings tabs (selected from the Utilities menu), file locations, object color, line type, line width, layer settings, default text settings like height, font, rotation, justification, default dimension settings, and so on.

As you draw and change settings, if you find that you want to restore the program settings back to the way they were:

1) Select the Drawing Aids menu.
2) Select the Reset command (or click the Reset button on the Speedbar).
3) When asked if you want to restore default settings, click Yes.

Angle Trap On/Off (OT)

The Angle Locking Draw feature simplifies drawing lines by automatically straightening the line you are drawing when you come within five degrees of horizontal or vertical.

For instance, when you select the line command you click once on the drawing screen to place the first point of the line. At this point you can move the cursor in any direction. Notice that anytime your cursor moves within 5 degrees of horizontal or vertical, it will automatically straighten out. When your line is at the desired angle, click the left-mouse button a second time to finishing placing it.

Angle Trap On / Off is a toggle; click the command once to turn it on, again to turn it off.

Layer Manager (MGL)

The Layer Manager offers a way of isolating different objects in the drawing onto different levels or pages. Imagine a stack of clear sheets of paper, each sheet being a different layer. Much like human anatomy sections in encyclopedias which allow you to pull away layers of the body such as skin, veins, muscle, down to the skeleton. While layering is a lot more powerful than turning pages in a book, the concept is the same.

Layers are essential if you have a complex diagram of entities or one that might consist of different time frames such as a car crash. You could set up a layer for the roads, a layer for the cars before the crash, a layer for the cars at impact, and a layer for the cars after the crash at their resting positions. You would also set up layers for text and dimensions.

To open Layer Manager:

1. Select Layer Manager from the Drawing Aids pull-down menu.

A dialog box appears, displaying a list of the layers used in your drawing. The current layer is displayed in boldface, and layers with data on them are marked with asterisks (*). Listings for hidden layers are grayed.

Buttons on Layer Manager
The buttons on the layer dialog are used to control layer display (on/off), and the current layer . You can also find these features and some bonus features on a pop up menu by right clicking in the layer dialog.

Layer Display
The Layer Display button is an on/off toggle. When the selected layer is currently displayed, clicking on this button will hide it and visa versa. A hidden layer's name or number is displayed in italics.

Important: You cannot hide the current layer. In order to hide the current layer first set a different layer to be current, and then go back and hide the layer.

Make Selected Layer Current
Clicking on this button will make the selected layer the current layer. You can also double click on a layer to make it current. Anything drawn or placed in the diagram are placed on the current layer. When starting a new drawing Layer 0 is the default layer.

Layer Manager continued

Set Layer Properties (located on the Speedbar) -
Different properties may be set for different layers. Color, line type, and line width properties can be set using the properties dialog box.

To set Layer Properties;

1. Click on layer 10 to select it.
2. Click on the Properties button from the Speedbar
3. Set color to red and line width 2.
4. Click OK on the properties dialog to accept the properties settings.
5. Click the "Apply" button to apply the desired properties to the selected layer.

You may also select a different layer, change property settings, and apply settings for that layer without closing the properties box. When finished be sure to click the OK button or the layer properties dialog will remain open.

With these properties set, anything you draw on that layer will be red and have a thick line width. If you don't set layer properties then the current property settings in the program will still be in effect.

Once layer properties are set for a layer an icon will appear on that layer showing the color set in layer properties. If line type is set in layer properties then a "T" will be displayed in the icon. If line width is set in layer properties then a "W" will be displayed in the icon as well.

Setting Different Properties
On the Layer Properties Settings Bar, you may select options from the drop - down list to set the layer properties. Click the Apply button to assign those properties to the selected layer. Click OK to close the Layer Properties Settings Bar.

Changing Properties of Objects on Layers with Property Settings
If you want to change properties of an object that has automatically been assigned the properties set for that layer, select the object(s) and then select Edit Properties from the Edit/Modify pull-down menu. Set the desired properties from the Settings Bar or from the dialog box that is displayed.

Determining the Layer of a Selected Object
To determine what layer an item is on you can; select the object and click the Edit Properties button. The layer of the selected object will be displayed in the layer field of the Properties dialog.

Layer Manager continued

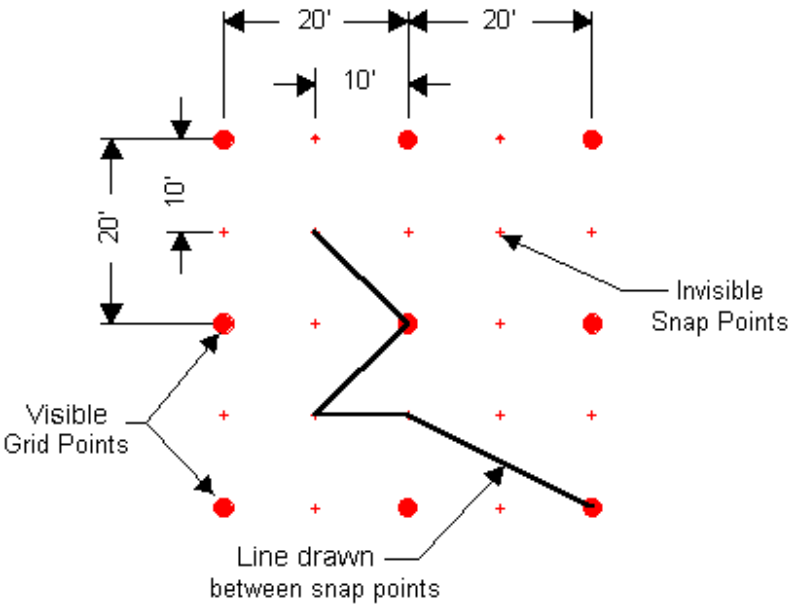
Naming Layers
To name or rename a layer, click once on the layer to select it, then again click within the selected text field to activate the text cursor (the same process that is used by Window Explorer). Type in the desired layer name and press Enter.

Important: You cannot rename a layer using a number for the first character. If you want to show a number followed by text then begin the name with a dash or underscore. **Example: _2ndLevel**

Grid Commands

Quick Scene features an optional ‘’snap grid’’ or network of imaginary points that can be a helpful reference when drawing. When the grid is on, the screen is covered with small red dots which provide a guide for setting points and placing symbols. Since the grid points are imaginary, they will not appear on the drawing when it is printed out.

The grid is called a snap grid because when it is turned on you can only move the cursor exactly from one grid point to another. In other words, whenever you try to draw an object (like a line, circle, or rectangle) or place a symbol, the cursor ‘’snaps’’ exactly to the grid points. This is very useful if you want to place several symbols so they are exactly 10' apart; you simply set up a 10' snap grid and place the symbols on the grid points.



Grid Display (GR)

The Grid Display command is used to turn the visible display of the grid on or off. As you zoom the display in or out the grid display is adjusted to show either more or fewer grid points.

To toggle the grid display:

Choose the Grid Display command.

The grid display status is reversed (if it was previously hidden, the grid is now displayed and so on).

Snap Grid (SG)

When Snap Grid is on, the cursor can move only from one grid point to another (The grid need not be visible for Snap Grid to be in effect. See Grid Display). This constraint is toggled on or off with the Snap Grid command.

To constrain cursor movement to grid points:

Choose the Snap Grid command.

Cursor movement will be constrained to only move between the grid points (see exception below), even if Grid Display is toggled off.

Note
Some commands conflict with Snap Grid, and are resolved as follows:

· Manual coordinate entry of coordinates (such as Direction-Distance entry) overrides the Snap Grid. Points placed manually will be located as entered, regardless of the status of the Snap Grid toggle.
· Other snaps override Snap Grid.
· Orthogonally-constrained operations (Angle Draw commands) maintain the orthogonal constraint even if Snap Grid is on. If cursor free is off, then the cursor will stay on the orthogonal axis (rather than on grid points) but will "jump" to positions that are as close as possible to the nearest grid points. If cursor free is on, then the cursor will move from one grid point to another, while the end of the orthogonally-constrained rubber band line "shadows" it.

Grid Size (GS)

Use the Grid Size command to set the spacing of grid points to any convenient spacing in the X (horizontal) and Y (vertical) directions.

To set the grid size:

1. Choose the Grid Size command.

A Settings Bar will appear with the current settings for the X and Y grid spacing displayed.

2. Edit the X and Y grid spacing as desired. When finished, click OK.

The new grid spacing will be set as specified, with the new grid originating about the drawing origin (by default) or the most-recently specified grid origin point.

Grid Origin (GO)

Use the Grid Origin command to move the display/snap grid so that a specified point of the drawing falls exactly on a grid point (The grid does not actually have an origin, as such. This command simply *aligns* the grid with any point you choose). By properly aligning and sizing the grid, and turning Snap Grid on, you can quickly and accurately place objects at multiples of base X and Y offsets from a specified point. With this command, for example, you could quickly place sprinkler head symbols in a fire protection design or place trees or shrubs in a site drawing.

To align the grid with a specified point:

1. Choose the Grid Origin command.
2. Click or snap to place a point where you want a grid point to be located.

Quick Scene will move the grid so that a grid point is located precisely at the specified point. Even if you were to change the grid size, a grid point will be located on this point until you turn off the grid or reissue the Grid Origin command.

Windows Menu

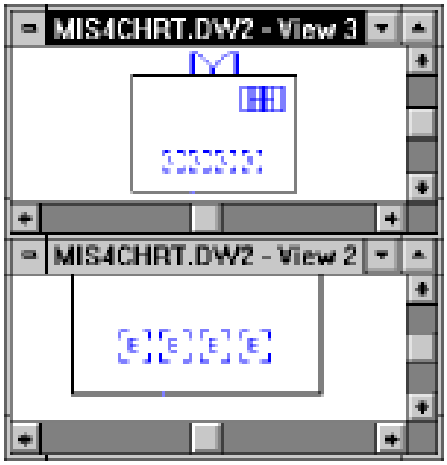
Tile Vertical

(The commands on the Windows menu are similar to those found in other Windows applications. Use them to display multiple open drawings at once.)

Use the Tile Vertical command to see open drawing files with the screen initially split into equal vertical windows. (You can readjust the size and shape of the windows using normal Windows procedures.) Each drawing is displayed in its new window in the same view (zoom) that was in effect the last time the drawing was active.

To display all open drawings in a vertical format:

1. Choose the Tile Vertical command.
2. The drawing area will be split into equal vertical windows, one for each open drawing. You can re-size the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions.



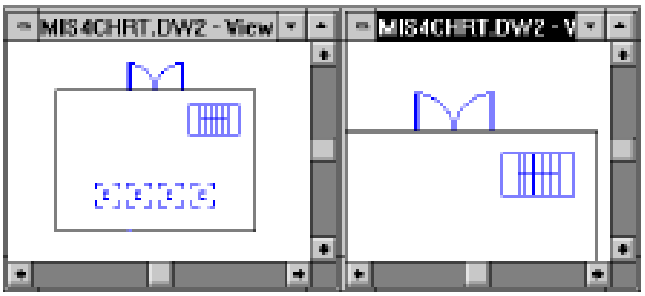
Tile Horizontal

You use the Tile Horizontal command to see all open drawing files with the screen initially split into equal horizontal windows. You can re-size the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions. The active window - the window that is set to accept program commands - is indicated with highlighted borders and title bar. Each drawing appears in its window in the same view (zoom) that was in effect the last time the drawing was active.

To display all open drawings in a horizontal format:

1. Choose the Tile Horizontal command.

2. The drawing area will be split into equal horizontal windows, one for each open drawing. You can re-size the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions.



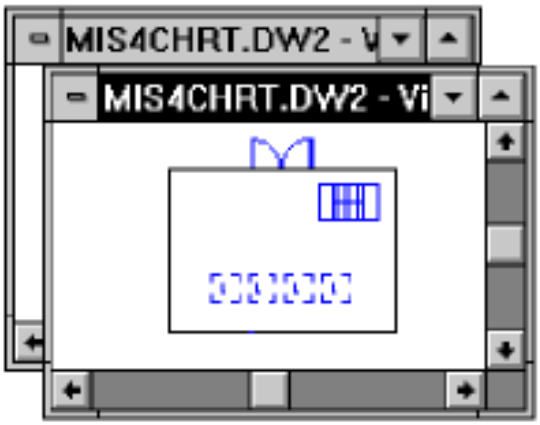
Cascade

Use the Cascade command when you want quick access to all open drawing files in a stacked format with the active drawing on top. You can re-size the windows by dragging the window edges or corners with the pointer, or move the windows by dragging the title bars, according to standard Windows conventions. The active window - the window that is set to accept program commands - is indicated with highlighted borders and title bar.

Each drawing is displayed in its new window in the same view (zoom) that was in effect the last time the drawing was active.

To display all open drawings in a cascaded format:

1. Choose the Cascade command.
2. Click on any visible part of a window to make that window active, and to bring it to the top of the stack.



Close All Windows

Use this command to close all active windows currently displayed on the drawing screen.

1. Choose the Close All Windows command.
2. All active Windows are saved and closed.

Chapter 4 -

Creating a Collision Diagram

This chapter guides you through the process of creating a quick collision scene. It demonstrates shortcuts and tools that are useful for creating simple collision sketches where exact measurements are not required. Part One presents you with individual lessons addressing specific features, while Part Two offers you a complete Quick Scene tutorial to work through.

In this Chapter

Part 1
- Pre-drawn Templates
- Easy Intersections
- Adding Symbols
- Adding Text
- Placing Dimensions
- Changing Line/Color

Part 2
- Creating a New Drawing
- Features of the Easy Intersection Toolbox
- Easy Intersection tutorial
- Changing the Centerline
- Placing Vehicle Symbols
- Placing Text
- Placing Dimensions
- Printing your Diagram

Lesson 1: Using a Pre-Drawn Template

When you first open the program the “Let’s get started” toolbox loads on the program screen.

Click the “Start from Scratch” button on the Let’s Get Started dialog box.

Step One prompts you to click in the Drawing Name field and type in the desired name of your drawing.

Click in the Drawing Name field and type: tutorial

Step Two prompts you to pick the approximate site size. You can choose from small, medium, large or custom size options.

Click the “Medium - 200 ft. long” radio button option.

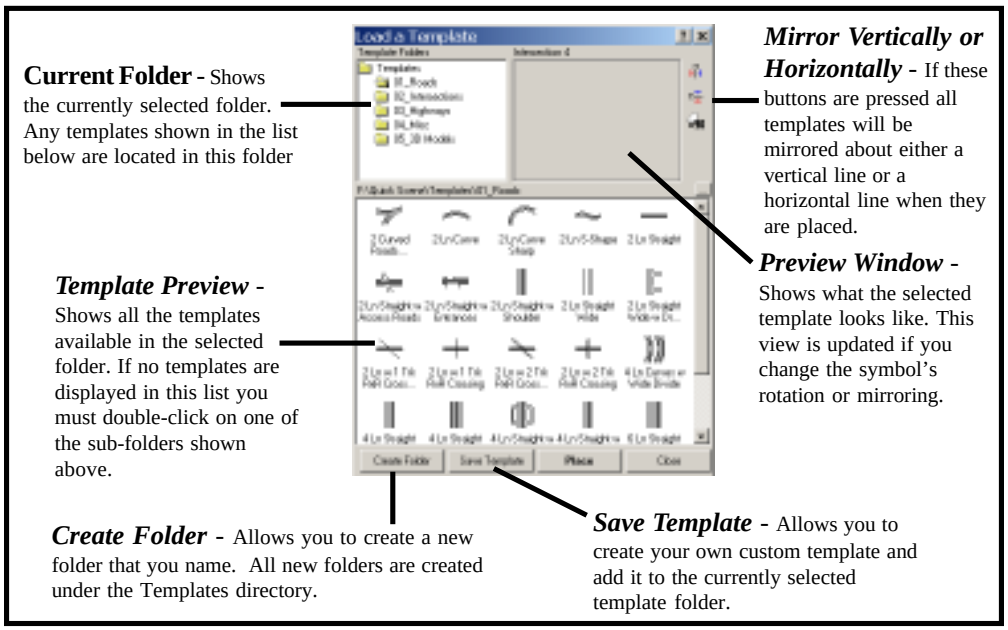
Step Three prompts you to select a method of adding an intersection. You are given three options:

- Pre-drawn Template - Opens the “Load a Template” toolbox, which allows you to choose from several pre-drawn intersections.
- Build an Intersection - Opens the Easy Intersection toolbox, so you can create your own custom intersection.
- No Method - Draws a border to the size that you chose in Step One, so you can create a diagram completely from scratch.

Select the “Pre-drawn Template” radio button option and click the OK button to open the “Load a Template” toolbox.

The “Load a Template” toolbox allows you to preview and select pre-drawn

templates roads and intersections. The pre-drawn templates that are included with Quick Scene are all stored in sub-folders under the main Templates folder. You may also display the Templates Toolbox at any time by clicking on the button labeled Templates on the left-hand toolbox.

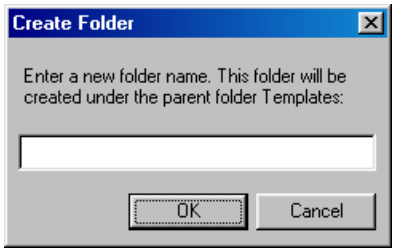

Current Folder - Shows the currently selected folder. Any templates shown in the list below are located in this folder
Mirror Vertically or Horizontally - If these buttons are pressed all templates will be mirrored about either a vertical line or a horizontal line when they are placed.
Preview Window - Shows what the selected template looks like. This view is updated if you change the symbol's rotation or mirroring.
Template Preview - Shows all the templates available in the selected folder. If no templates are displayed in this list you must double-click on one of the sub-folders shown above.
Create Folder - Allows you to create a new folder that you name. All new folders are created under the Templates directory.
Save Template - Allows you to create your own custom template and add it to the currently selected template folder.

The Template Toolbox

To place a template in your drawing simply select it from the appropriate folder in the templates toolbox (by clicking on its name) and clicking Open Template. Then place the template in the diagram by clicking or snapping to a specific point in your drawing.

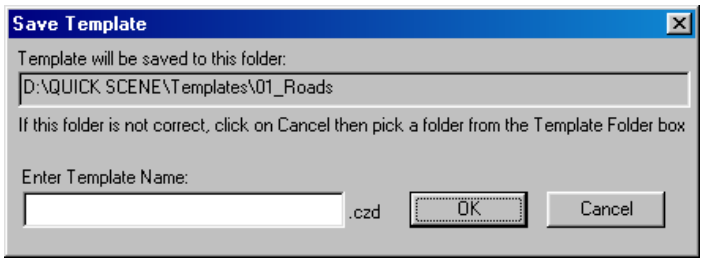
The first step to placing a Template in your diagram is to select the desired Template from the Template Toolbox.
1. Select the folder where the templates are located by double-clicking on the folder name in the upper portion of the templates toolbox.
2. Click on any template name and notice a preview of the symbol appears in the upper-right of the toolbox.
3. Click the Open Template button and move the cursor back into the drawing window. Notice an outline of the template attached to the cursor.
4. Click the left-mouse button (or snap to an existing point) to place the template in the drawing window.

To create a new folder in the Templates directory:
1. Click the Create Folder button on the Template toolbox.
2. A "Create Folder" Dialog box will appear prompting you to enter a name for the folder.



3. Click in the blank field, type the desired name of the folder, and click the OK button.
4. The new folder is saved under the Templates directory.

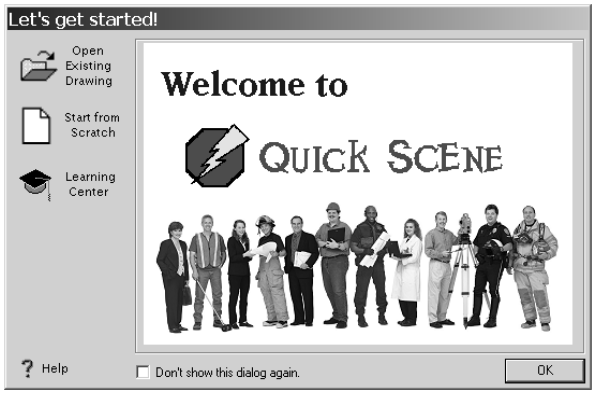
To create and save a new Template:
1. In the Template toolbox navigate to the desired folder where you want the custom template to be saved.
1. Click the Save Template button on the Template toolbox.
2. A "Save Template" dialog box will appear prompting you to save the new template in the currently selected folder. If this folder is not correct, click the Cancel button and repeat Step One.


Save Template
Template will be saved to this folder:
D:\QUICK SCENE\Templates\01_Roads
If this folder is not correct, click on Cancel then pick a folder from the Template Folder box
Enter Template Name:
.czd
OK
Cancel

3. Click in the "Enter Template Name" field and type the desire name of the custom template.
4. Click the OK button to save the new template in the selected template folder.

Lesson 2: Using the "Build Intersection" option.

When you first open the program the "Let's get started" toolbox is displayed.



Click the "Start from Scratch" button on the Let's Get Started dialog box.

Step One prompts you to click in the Drawing Name field and type in the desired name of your drawing.

Click in the Drawing Name field and type: tutorial

Step Two prompts you to pick the approximate site size. Choose from small, medium, large or custom size options.

Click the "Medium - 200 ft. long" radio button option.

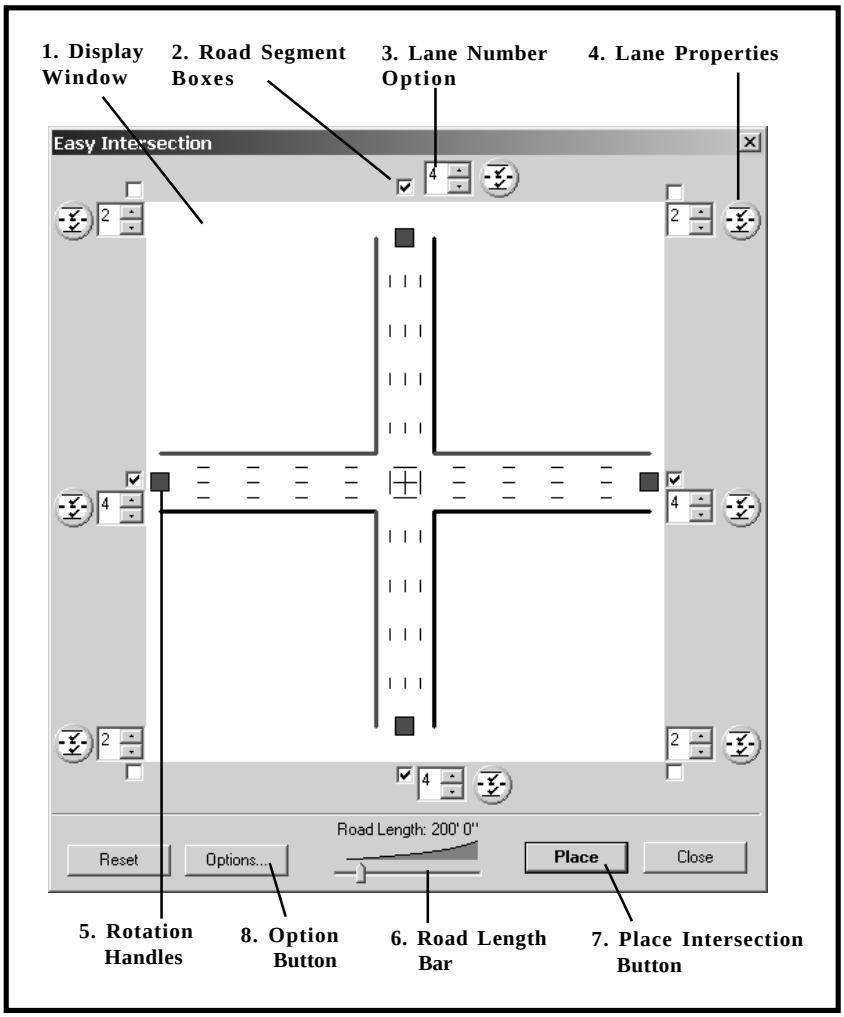
Step Three prompts you to select a method of adding an intersection.

Select the "Build Intersection" radio button option and click the OK button to open the "Easy Intersection" toolbox.

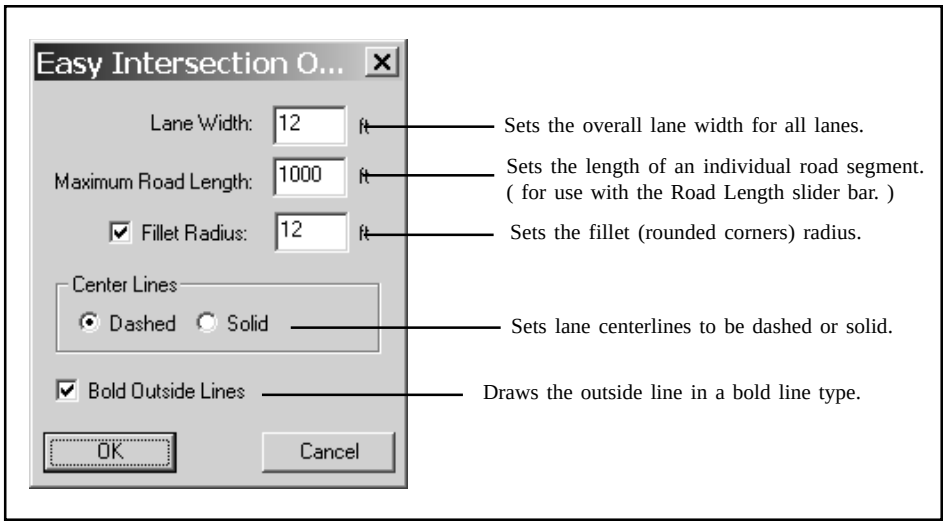
The Easy Intersection wizard allows you to create an intersection by simply clicking and selecting from the various options. (You may also display the Easy Intersection Toolbox at any time by clicking on the button labeled Easy Intersection on the left-hand toolbox.)

Features on the Easy Intersection toolbox:

1. **Display Window** - This is where you view the intersection model as it is being built.
2. **Road Segment boxes** - Check mark the road segment boxes to add a road segment to the intersection.
3. **Lane Number Option** - Click the arrows to increase or decrease the number of lanes in each road segment.
4. **Lane Properties Option** - Click the round Lane Properties button to change the line types and widths in the selected road segment.
5. **Rotation Handles** - Drag this square to rotate the road segment to a new angle.
6. **Road Length Bar** - Move the slider arrow to increase or decrease the overall road length.
7. **Place Intersection Button** - Click to place the completed intersection in your drawing.



8. Options button - brings up the following dialog box with the following options


Easy Intersection O...
Lane Width: 12 ft
Maximum Road Length: 1000 ft
Fillet Radius: 12 ft
Center Lines
Dashed
Solid
Bold Outside Lines
OK
Cancel
Sets the overall lane width for all lanes.
Sets the length of an individual road segment. (for use with the Road Length slider bar.)
Sets the fillet (rounded corners) radius.
Sets lane centerlines to be dashed or solid.
Draws the outside line in a bold line type.

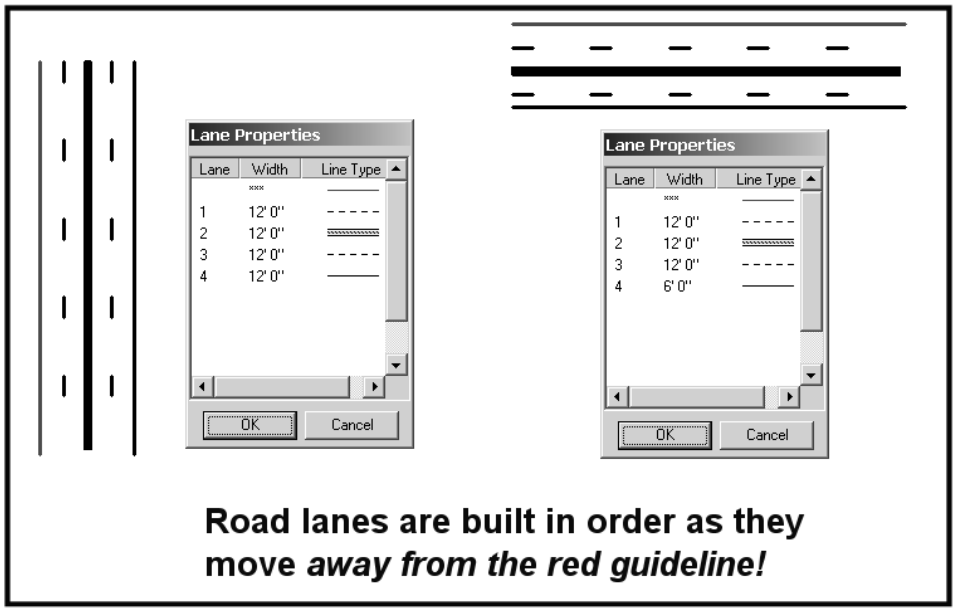
Lane Width - Sets the overall width for all the lanes of the roads.
Road Length - Set the maximum length of the road segments. This number determines how big you can make the intersection when using the Road Length slider. (Ex. By setting the maximum length to 1000 feet, picking two segments opposite of each other would create an overall intersection length of 2000 feet.
Fillet Radius - Used to round the corners of the intersection. Un-check the box next to Fillet Radius if you want square corners (90 degrees).
Center Lane Type - Set to determine either dashed or solid center lines. If you want a different line type (such as a double solid center line), select the line to be changed and choose one of line types from the Quick Pick or the Line Types menus.

To Draw an intersection using the Easy Intersection toolbox;

1. Select Easy Intersection from the Left-hand Toolbox.
2. Build the intersection you want to place in the diagram by checkmarking the desired road segment boxes.
3. Click the arrows in the Lane boxes to increase or decrease the number of lanes in each road segment.
4. Click the round Lane Properties button to change the line types and widths in the selected road segment.

Use the Lane Properties feature to change lane widths and centerline types for each lane in the selected road segment. The number of lanes displayed in the toolbox relate directly to the selected road segment. For instance if your road segment contains four lanes, then four editable lane segments will appear in the lane properties toolbox.

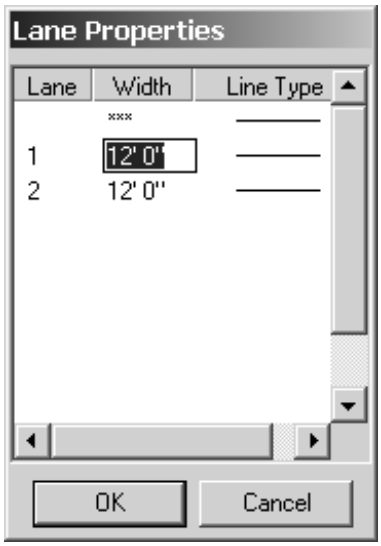
You can enter a width and line type for each individual lane up to ten lanes. The red "guideline" in the preview indicates the first edge of the road segment and cannot be changed until after the intersection is placed in the diagram. The remaining lines are shown in order as you move away from the red guideline.



To change the lane width in the properties toolbox:

A. Click in the Width column for the lane to be edited and backspace over the existing text.

B. Type in the new width (ex. 12') of the lane and press Enter or click in another lane width column.

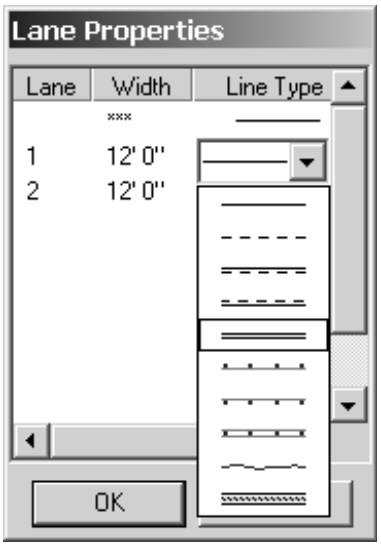


Editing the Lane Width.

To change the line type of a selected lane:

A. Click in the Line Type column of the lane to be changed to display a drop-down a list of centerline and guardrail types.
B. Click on a desired line type from the drop-down menu to select it.

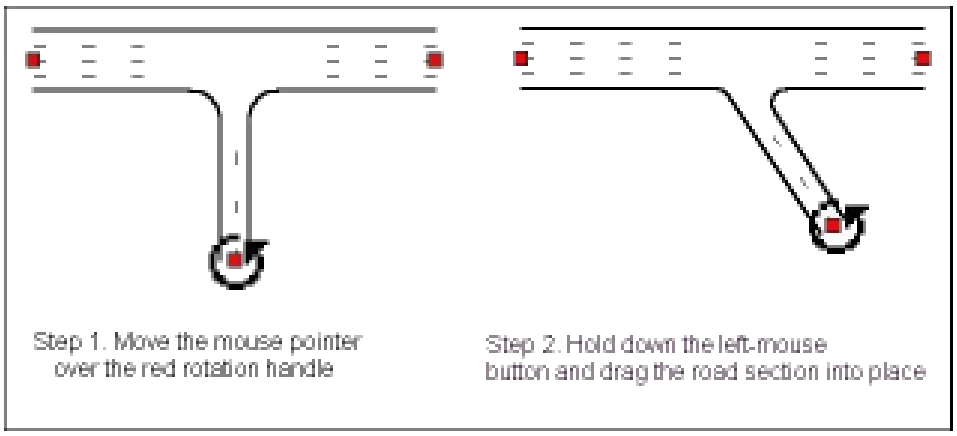
Click the OK button at the bottom of the toolbox to apply the new setting to the road segment.



Changing the line type

5. Move the Road Length slider to the left or right to increase or decrease the length of the road segment.

6. Click and hold on the red rotate handle to adjust the angle of a section, if needed.


Step 1. Move the mouse pointer over the red rotation handle
Step 2. Hold down the left-mouse button and drag the road section into place

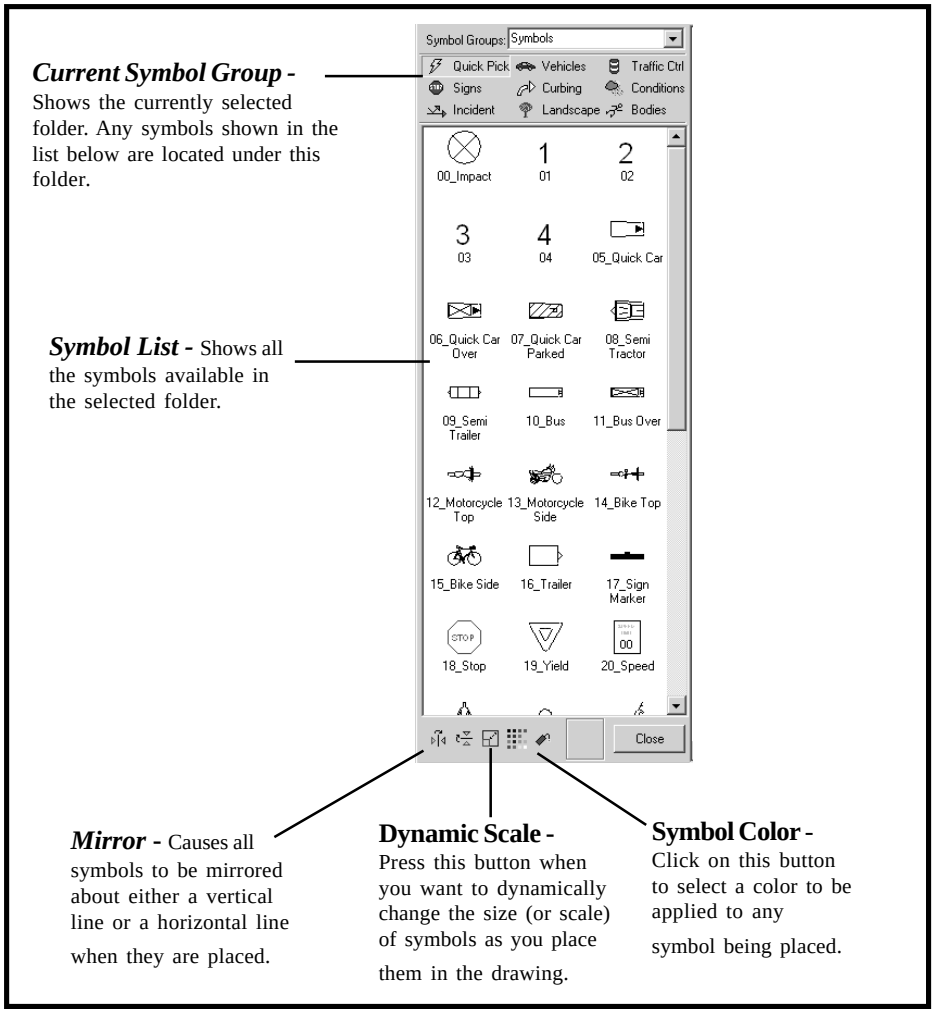
7. Click on the Place Intersection button to place the intersection on the drawing screen.

At this point you can add symbols, text, and dimensions. You can also use the edit/modify commands to stretch different segments of the intersection or break and cut out sections of the roads to show driveways or other openings.

Lesson 3: Adding Symbols

Symbols are collections of objects that are grouped together, named, saved, and then placed and manipulated as a single object. You can insert them repeatedly in the same drawing, or save them on disk for use in future drawings. This saves you the time that would be necessary to draw the same objects over and over, and also provides some additional advantages. For example, each symbol is defined just once in the drawing definition, so that repeated placements of the same symbol have little impact on drawing file size. The same symbol can be inserted in different locations, and at different rotations and sizes. Symbols can consist of anything you want, such as a vehicle, a street sign, or even an entire intersection.

Preview what symbols are available to you and select symbols to place in your diagrams from the Symbol Manager. To place a symbol in your drawing simply select it from the appropriate group in the Symbol Manager (by clicking on its name) and then place the symbol handles by clicking or snapping to specific points in your drawing. From Symbol Manager you can also select options that affect how the symbol is to be placed such as it's color and whether it is mirrored on placement. You can also choose whether you want to dynamically size and rotate the symbol as it is placed, or place it at its default size and rotation.


Current Symbol Group - Shows the currently selected folder. Any symbols shown in the list below are located under this folder.
Symbol List - Shows all the symbols available in the selected folder.
Mirror - Causes all symbols to be mirrored about either a vertical line or a horizontal line when they are placed.
Dynamic Scale - Press this button when you want to dynamically change the size (or scale) of symbols as you place them in the drawing.
Symbol Color - Click on this button to select a color to be applied to any symbol being placed.
Symbol Groups: Symbols
Quick Pick
Vehicles
Traffic Ctrl
Signs
Curbing
Conditions
Incident
Landscape
Bodies
00_Impact
01
02
03
04
05_Quick Car
06_Quick Car Over
07_Quick Car Parked
08_Semi Tractor
09_Semi Trailer
10_Bus
11_Bus Over
12_Motorcycle Top
13_Motorcycle Side
14_Bike Top
15_Bike Side
16_Trailer
17_Sign Marker
18_Stop
19_Yield
20_Speed
Close

To place a symbol in a diagram:

1. Select the Symbols button from the left-hand toolbox to bring up the Symbol Manager.
2. Select the symbol group where the desired symbol files are located by clicking on the symbol group name in the upper portion of the Symbol Manager.
3. Click on any symbol name and move the cursor back into the drawing window.
4. You will see a ghost image of the symbol attached to the cursor.
5. Click or snap to an existing point to place the first handle of the symbol.
6. Move the cursor and notice that you can rotate the symbol as you move the mouse.
7. Move the mouse until the symbol has the desired rotation angle and click the left-mouse button to finish placing the symbol.
8. Select and place additional symbols, or click the close button to exit the symbol manager

Lesson 4 - Adding Text to the diagram

Use the Text command to place text for notes and labels in your drawings.

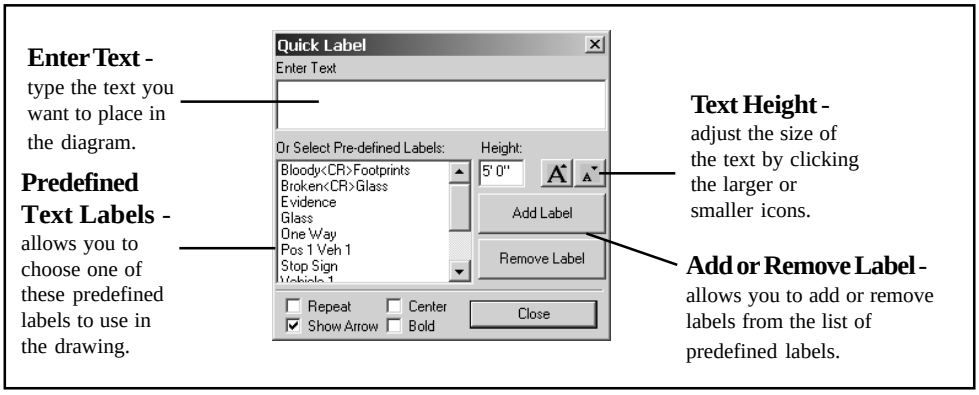
To place text in the diagram:

The Quick Label Icon

1. Choose the Quick Label command from the Draw/Edit menu on the left-hand toolbox.
2. Click in the Enter Text field in the upper-left corner of the text toolbox.
3. Type in the text "Point of Impact" or choose one of the pre-defined labels by clicking on the desired label from the list.
4. If necessary, adjust the size of the text by clicking on the "larger" or "smaller" text buttons.

Move the cursor into the drawing window and notice a bounding box appears which expands as you change the text in the text box. This box shows the currently selected size and rotation for the text. You can change the text properties at any time before you place the final point and the bounding box is updated to reflect the changes. Any settings you choose will apply to the whole line of text.

5. Click or snap a point to anchor the lower-left corner of the text.
6. Move the cursor and notice that you can rotate the text around the anchor point.
7. When the text has the desired rotation angle, click or snap to finish placing it. To place the text horizontally you can simply press the Enter key for the final point.
8. Place additional text or click the Close button to exit the Text Toolbox.


Enter Text - type the text you want to place in the diagram.
Predefined Text Labels - allows you to choose one of these predefined labels to use in the drawing.
Quick Label
Enter Text
Or Select Pre-defined Labels:
Height:
5' 0"
Bloody<CR>Footprints
Broken<CR>Glass
Evidence
Glass
One Way
Pos 1 Veh 1
Stop Sign
Add Label
Remove Label
Repeat
Center
Show Arrow
Bold
Close
Text Height - adjust the size of the text by clicking the larger or smaller icons.
Add or Remove Label - allows you to add or remove labels from the list of predefined labels.

The Edit Icon

To edit text once it is placed in the drawing simply select the desired text by clicking on it and re-select the Text button from the left-hand toolbox or click the Quick Edit Button on the Draw/Edit menu on the left-hand toolbox. The text toolbox appears with the selected text in the Text field. Make any changes to the text and click the OK button to complete the changes.

The Text toolbox contains many predefined text labels but you can also add and remove your own labels.

To add a label to the text toolbox:
1. Type the desired label in the Enter Text field.
2. Click the Add Label button.
3. When prompted to add the label, click the yes button.
4. The label now appears in the predefined list.

To remove a predefined label:
1. Select the label to be removed from the label list.
2. Click the Remove Label button.
3. When prompted to remove the label, click the Yes button. The label is now removed from the label list.

To place a leader:
1. Checkmark the Show Arrow option on the Templates toolbox.
2. Type the leader text in the Enter Text field.
3. Change the Text height on the dialog box, if desired.
4. Move the cursor and notice a ghost image of the leader attached to the cursor.
5. Click or snap to set the tip of the arrowhead.
6. Click to set the second endpoint of the leader. The leader text will appear next to the leader shoulder. As you move the cursor to the left or right, the leader text will "flip" to the opposite side of the shoulder. Remember that the final segment or "shoulder" will be drawn automatically to connect the leader lines to the text block.
7. When the text is placed where desired, click to place the leader text.

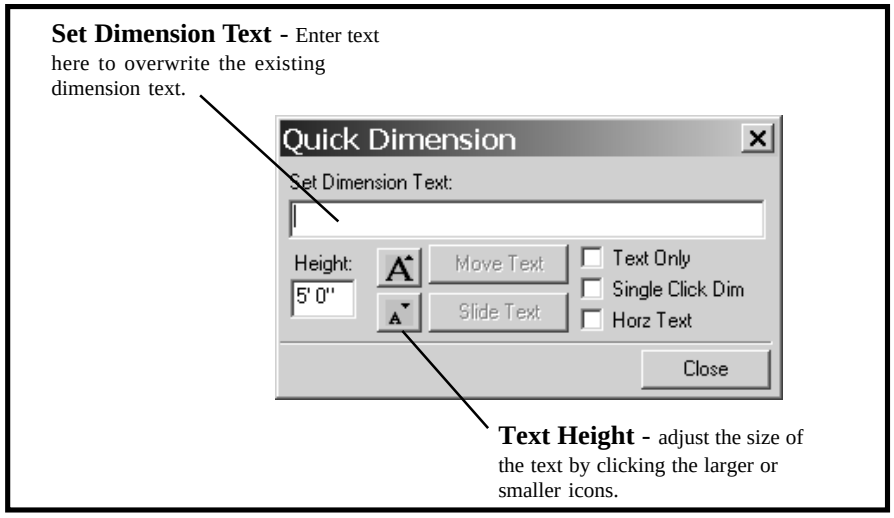
Lesson 5 - Placing a Dimension in the Diagram.

Use the Dimension Linear command to measure a distance and display it in the drawing. Normally, linear dimensions are used to show the length of an object, like a skidmark, or to show the distance between objects.

The Quick Dimension Icon

To place a linear dimension:

1. Choose the Dimension command from the Draw/Edit menu of the left hand toolbox
2. The first point should be placed precisely using the AutoSnap command, since it will be the basis for the measurement. Select AutoSnaps to turn it on.
3. Snap to select the ending point for the dimension.
4. As you move the cursor, a dynamic preview of the dimension now appears, constrained to move perpendicular to the dimension direction. You can place the dimension on either side of the line you are measuring.
5. If needed, you can dynamically change the size of the text by clicking the "Larger" and "Smaller" text buttons.
6. You can overwrite the text of the dimension by clicking in the dimension text field and entering a new value. This text will be placed in the dimension instead of the actual measurement between the two points.
7. Drag the dimension line to the desired location away from the dimensioned object, and place a point to set the dimension line and complete the dimension.

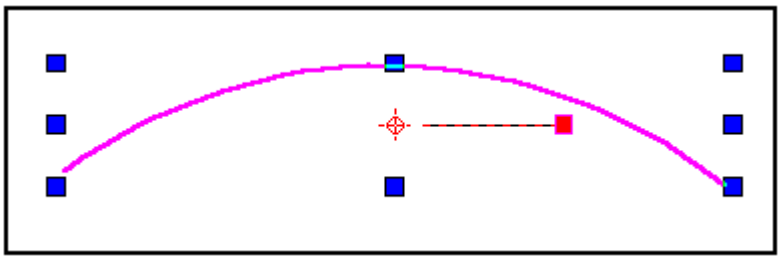

Set Dimension Text - Enter text here to overwrite the existing dimension text.
Quick Dimension
Set Dimension Text:
Height:
5' 0"
Move Text
Slide Text
Text Only
Single Click Dim
Horz Text
Close
Text Height - adjust the size of the text by clicking the larger or smaller icons.

Lesson 6 - Setting the Line Type/Color of an Object

The Set Line/Color menu is used to set the line color, line type, and the line thickness for new objects that you draw or for selected objects that you want to change. Once a line type is selected, any new entity drawn will be drawn with that line type until another line type is selected. For instance, if you want to draw a dashed line in a thick red style you set those properties in this toolbox, then select the Line command. Also in this bin you'll find custom line types to help improve your productivity. There are line types that are simply patterns such as dashes and dots, or more complex line types like railroad tracks, fences, footprints, guard rails, and so on. These line types work with any of the Draw commands such as Continuous Line, Arc, Curve, Circle, Rectangle, and Polygons. Even though some of the Line Types are complex, they can broken, moved, and modified just like any other single object drawn in the program.

To draw a line using different properties:
1. Select Set Line/Color from the left-hand toolbox.
2. Select the desired line type from the Line Type toolbox.
3. Select one of the draw commands from the left-hand toolbox.
4. Draw any object on the screen, such as a line or arc.
5. The object will be drawn with the selected Line Type.

To change the Line Type of an existing object:
1. Click to select the object whose line type you want to change.



2. Select Set Line/Color from the left-hand toolbox.
3. Select the desired line type from the line types menu.
4. The selected objects are changed to have the selected Line Type.

Part 2: Creating a Quick Collision Scene

Many times an extensive accident reconstruction diagram is not needed, but a quick sketch showing the important elements of the scene will suffice. This is usually the case where exact measurements are not required. Nonfatal collisions, DMV accident reports, and sketches used by auto insurance companies are all examples of the "quick scene."

Easy Intersection Tutorial

Follow these steps to create the quick scene diagram shown on Page 4-24 using the Easy Intersection feature. When you first open the program the "Let's get started" toolbox loads on the program screen.

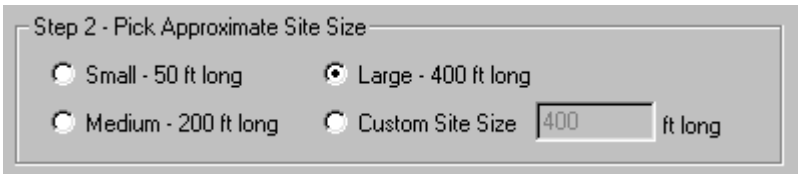
Click the "Start From Scratch" button on the Let's Get Started dialog box.

Step One prompts you to click in the Drawing Name field and type in the desired name of your drawing.

Click in the Drawing Name field, delete the name currently shown, and type: tutorial

Step Two prompts you to pick the approximate site size. You can choose from small, medium, large or custom size options.

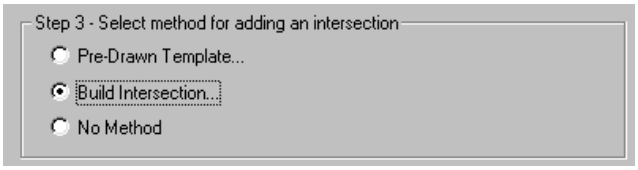
Click the "Large - 400 ft. long" radio button option.



Step Three prompts you to select a method of adding an intersection. You are given three options:

Pre-drawn Template - Opens the "Load a Template" toolbox, allowing you to choose from several pre-drawn intersections.
Build an Intersection - Opens the Easy Intersection toolbox, allowing you to create you own custom intersection.
No Method - Draws a border to the size that you choose in Step One, allowing you to create a diagram completely from scratch.

Select the "Build Intersection" radio button option.
Click the OK button to open the Easy Intersection toolbox.



Note: You may also display the Easy Intersection Toolbox at any time by clicking on the button labeled Easy Intersection on the left-hand toolbox.

Build the intersection by checkmarking the road segment boxes as shown in figure 4.1.

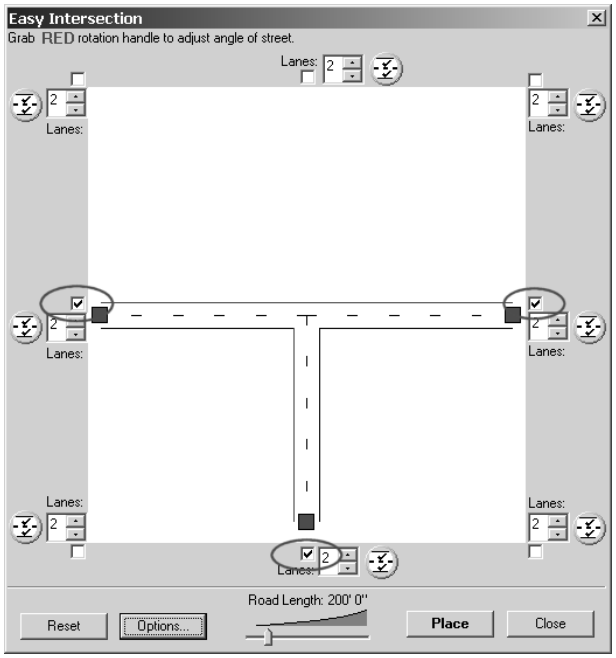


Figure 4.1 - Checkmarking the Road Sections

Next, change the number of lanes to four, by clicking the Lane Number arrow buttons next to each road segment, shown in figure 4.2.

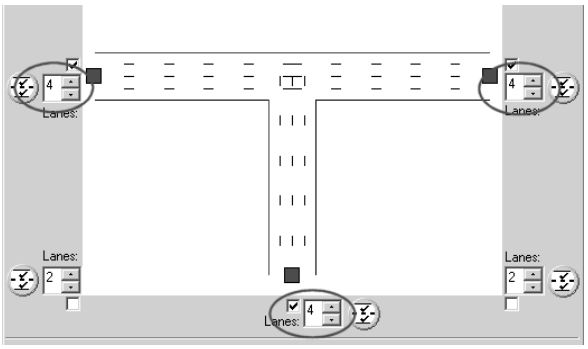


Figure 4.2 - Changing the number of lanes.

Since not all road segments are at 90 degree angles to each other, let's change the angle of the lower road segment.
To rotate a road segment:

1. Place your mouse pointer on the red rotation handle of the lower road segment and notice it changes to a round arrow icon.
2. Hold your left-mouse button, then drag the road segment to the desired angle as shown in figure 4.3

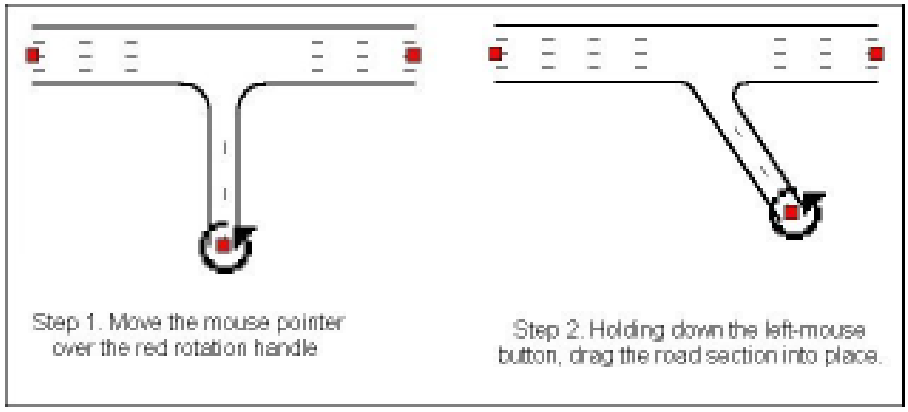

Step 1. Move the mouse pointer over the red rotation handle
Step 2. Holding down the left-mouse button, drag the road section into place.

Figure 4.3 - Rotating the road sections.

3. Change the centerline type of the road segments by clicking the Lane Properties button and selecting the Double Solid line type from the drop-down line type menu as shown in figure 4.4

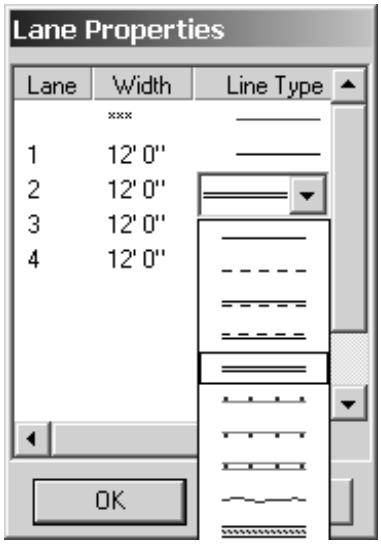


Figure 4.4 - Changing the centerline type.

4. Next, shorten the length of the road segments by clicking the Road Length slider bar and moving it to the left as shown below in figure 4.5.

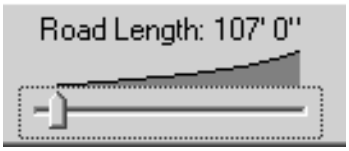


Figure 4.5 - Adjusting the road length.

Next, place the intersection onto the drawing screen.

1. Click the Place Intersection button as shown in figure 4.6.

Figure 4.6 - The Place Intersection button.

2. The Easy Intersection toolbox closes. A ghost image of the intersection appears on the screen, attached to your cursor. Position the image within the border and click your left-mouse button to place it.

At this point you can change line types of the centerlines, add symbols, text, and dimensions. You can also stretch different segments of the intersection to different lengths and break or cut out sections of the roads to show driveways or other openings.

Placing Symbols

Now you are going to place the symbols for the vehicles that collided. In this tutorial we'll place the vehicles at their point of collision, but first we'll zoom in on the intersection so that we can see the area we are working in more clearly.

Zoom Window Icon

1. Select Zoom Window (ZW) command from the speedbar.
2. Click the mouse pointer below the lower, left-hand corner of the intersection, near Point A, as shown in figure 4.7.
3. Move the mouse pointer up and to the right of the intersection, and click near Point B.

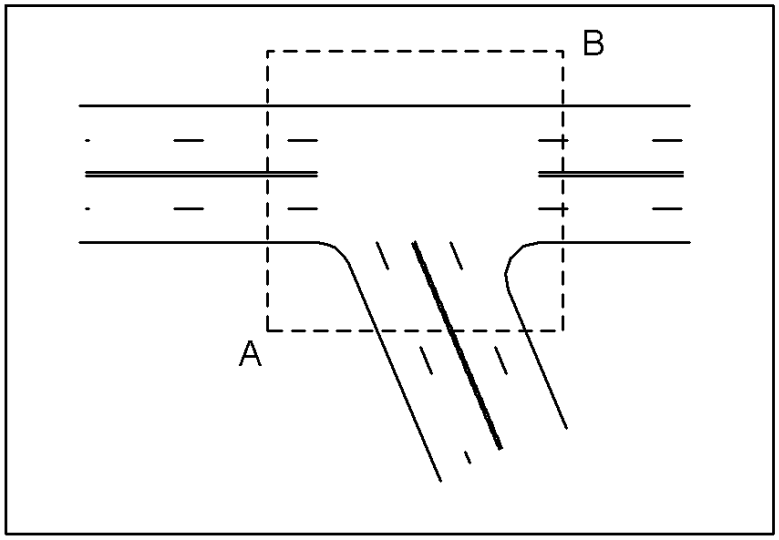


Figure 4.7 - Performing the Zoom Window command.

The display should now show an expanded view of the intersection, showing everything that you enclosed in the window. You will frequently use the View commands, like Zoom Window, that make it easier to place symbols and see the details of your diagrams. You can think of these like using the zoom lens of a camera. The View Menu contains all the View commands, as well as a command that refreshes the Drawing Window.

1. Select Symbols from the Left-hand toolbox.
2. If not already open, click on the Quick Pick symbol group to open it.
3. Click on the Quick Car symbol to select it.
4. Position your mouse pointer near point A as shown in Figure 4.8, and click the left-mouse button.
5. Move the cursor horizontally to the left to position the symbol on the street.
6. Once the symbol is in position, click the left mouse button again to finish placing it.

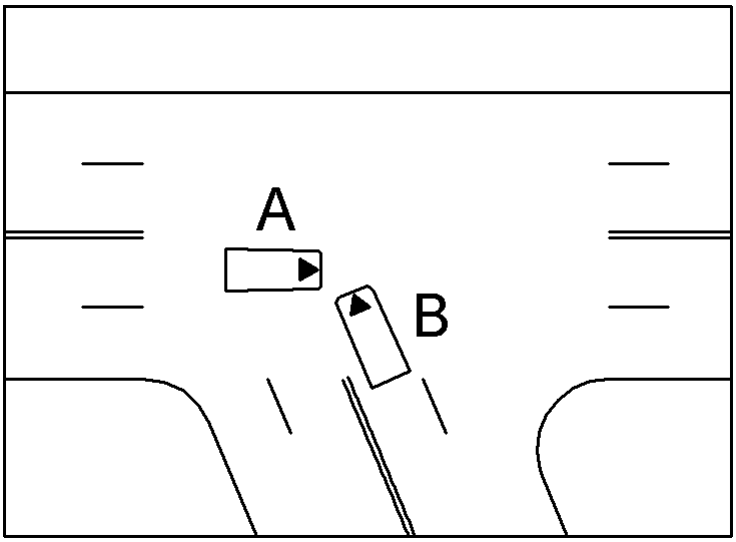


Figure 4.8 - Placement of the quick car symbols.

Referring to Figure 4.8, place a Quick Car symbol vertically near point B, as follows:

1. Select the Quick Car symbol from the symbol manager. 2. Click once near point B to anchor the first point (also the rotation point in this case).
3. Move the mouse vertically downward and click the left-mouse button to finish placing the symbol.

Place numbers in the Quick Cars

Next, you're going to place a 1 and a 2 inside the cars to label the Quick Car symbols. You could place ordinary text in your diagram, but in this case we'll use pre-drawn symbols just like the Quick Car symbol. This is faster than selecting the text feature and typing in a number. Refer to Figure 4.9 for which car gets which number.

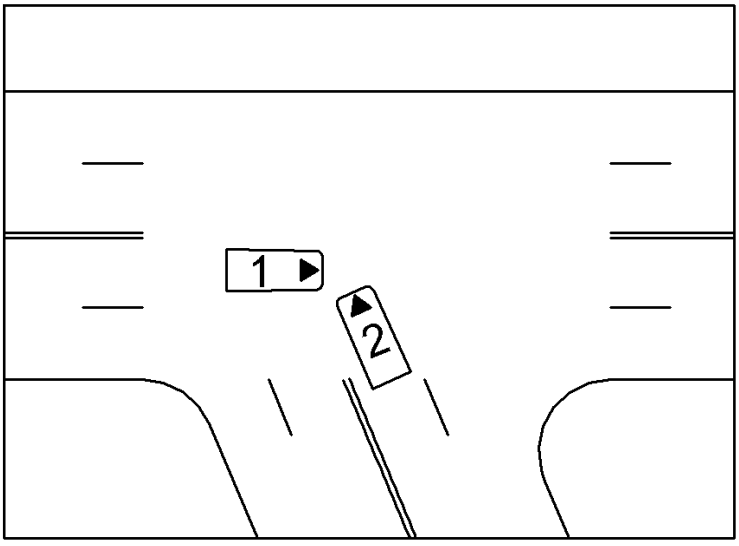


Figure 4.9 - Labelling the quick car symbols.

1. Select the "1" symbol from the Quick Pick symbol group and place it on the horizontal car.
2. Select the "2" symbol and place it on the vertical car.

If you are not happy with the way the numbers are positioned in the cars, move them to a new position using these steps:

1. Position the mouse pointer above and to the left of the desired number.
2. Hold down the mouse button and drag the pointer diagonally until it is below and to the right of the number symbol. Let up on the mouse button and all the objects that were fully enclosed in the window are selected, just the number symbol in this case.
3. Move your mouse pointer inside the eight selection nodes. When the pointer changes shape to a four-way arrow, press and hold down your mouse button.
4. Drag the symbol to it's new location, then let up on the mouse button.
5. Click on a blank area of the drawing to deselect the symbol and finish the command.

Placing the remaining symbols

All symbols in the program are placed the same way. Just repeat the procedure to place the remaining symbols. The results are shown in Figure 4.10. The symbols are arranged alphabetically, so use the scroll arrow to scroll down to the bottom of the symbol list to locate the North Arrow symbol.

Select the North Arrow Symbol and place it in the drawing.

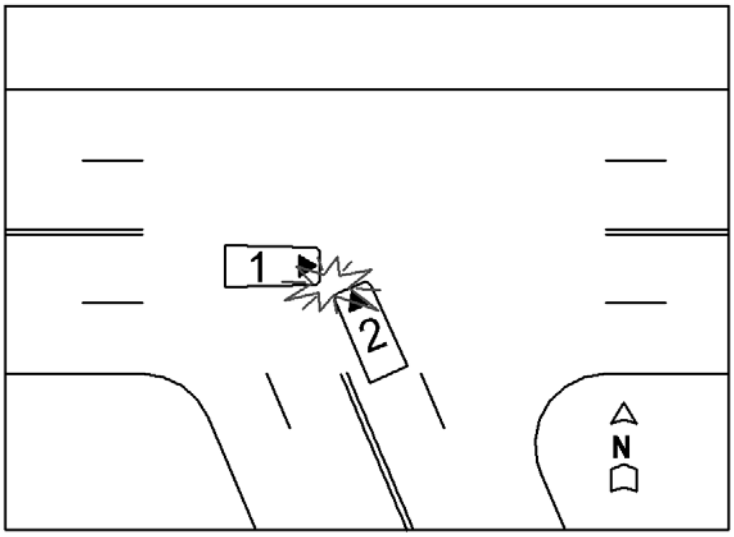


Figure 4.10 - Placing the remaining symbols.

The Crash Area Icon

Next, place the Crash Area symbol (from the Conditions group) where the cars collided.

1. Click on the Incident group icon to display it's contents.
2. Select the Crash Area symbol and place it in the drawing where the cars collided.
3. Click the Close button to close the Symbol Toolbox.

Saving Your Work

Before continuing, save your diagram to ensure that none of your work is lost. To be on the safe side, get in the habit of saving your diagram at regular intervals, at least every 10 - 15 minutes.

To save your diagram:

1. Select the File pull-down menu.
2. Select the Save (DS) command.

Assuming you already gave the drawing a name, The Crime Zone saves it to disk and you can proceed with more drawing.

Quick Scene includes an automatic save feature that is set to save your work with the existing file name every sixty seconds. If you have not yet assigned a name to the drawing, Auto Backup will perform a "Save As" and prompt you to enter a file name.

However, you don't want to become to dependent on the auto backup feature. You never know when your computer might hang up or a power loss will occur, and you don't want to lose your latest work. You may also want to quit for the night, or take a break and come back to the diagram later. Saving it to the hard disk lets you do just that.

Zoom All Icon

Divider -top Line Type Icon

Changing Line Types

Now let's change the centerline of the lower road segment to a divider as shown in figure 4.11:

1. First select the Zoom All command from the speedbar.
2. Select the center lines on the bottom road segment by clicking on it with the left-mouse button.
3. Once selected, click the Set Line/Color button located on the left-hand toolbox.
4. Click the "Divider-top" line type icon, and notice that the centerline changes to a "jersey wall" line type.

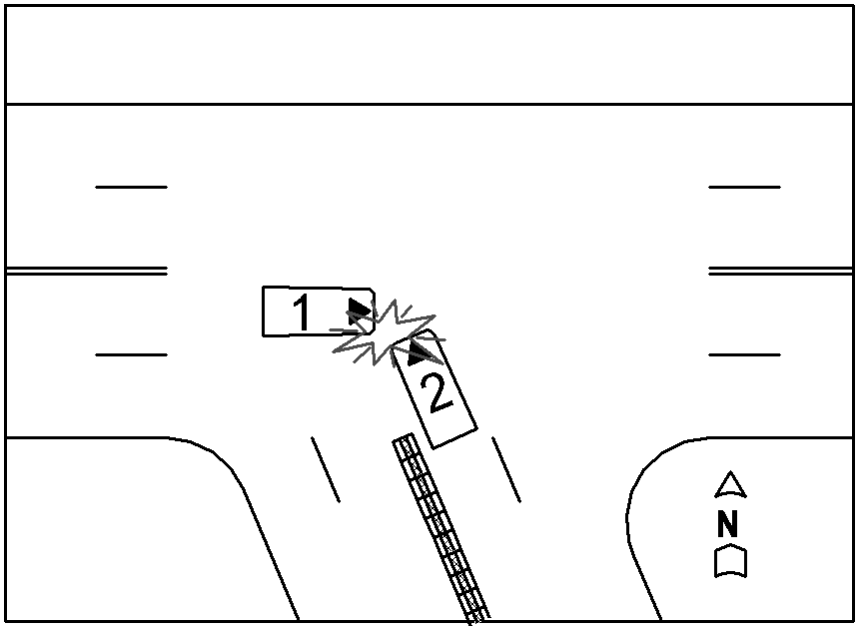


Figure 4.11 - Changing the centerline types.

Adding Skid Marks

Now Add skid marks to the diagram, as shown in figure 4.12:

1. Select the desired skid mark line type from the Set Line/ Color menu on the left-hand toolbox.
2. Select the Arc command from the Draw/Edit menu on the left-hand toolbox.
3. Place the starting point for the arc near the rear of Car 2.
4. Place the middle point of the arc at any intermediate point on the arc. (A preview of the arc appears, connected on one end to the cursor.)
5. When the arc is in the desired position click again to place the endpoint of the arc.

Tip:
If you don't like the position of the second point you place on the arc, press Esc on the keyboard. Then you can place the point again.

6. Place another skidmark for the other tire of car 2.
7. When finished drawing the Skid Marks change the line type back to Normal by clicking the Norm icon from the left-hand toolbox.

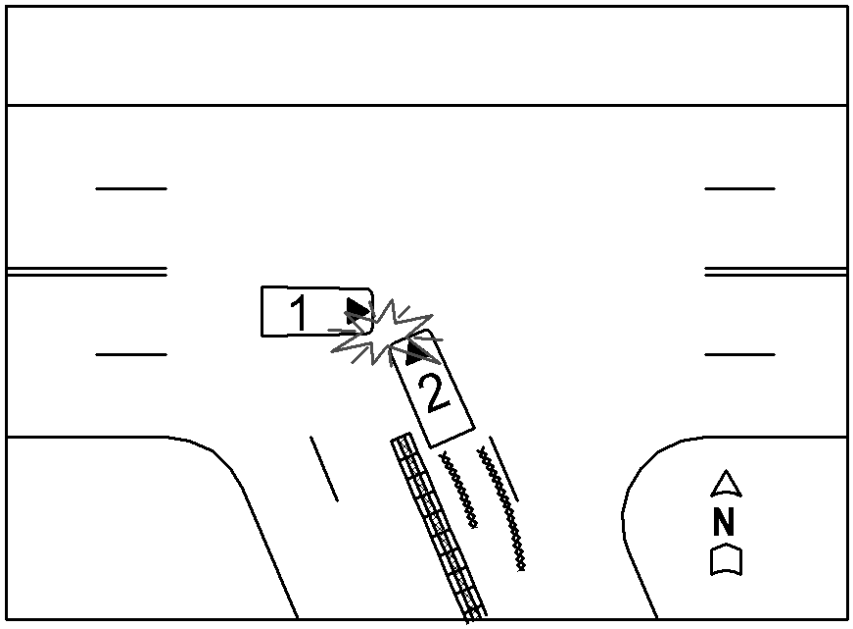


Figure 4.12 - Adding skidmarks to the drawing.

Refer to the lesson on set lines/color for more information on placing skid marks and other line types in your drawing. Finally, you can add the finishing touches to your diagram by placing text and dimensions.

Placing Text

Next let's label the streets. As shown in Figure 4.13, the angled street is labeled "135th" and the horizontal street is labeled "Wilson Ave." First, label the horizontal street.

Quick Label Icon

1. Select Draw/Edit from the left-hand toolbox, and then select the Quick Label Command.
2. Click once inside the text entry window. Type in the word "Wilson Ave."

3. Move your mouse pointer onto the drawing screen and

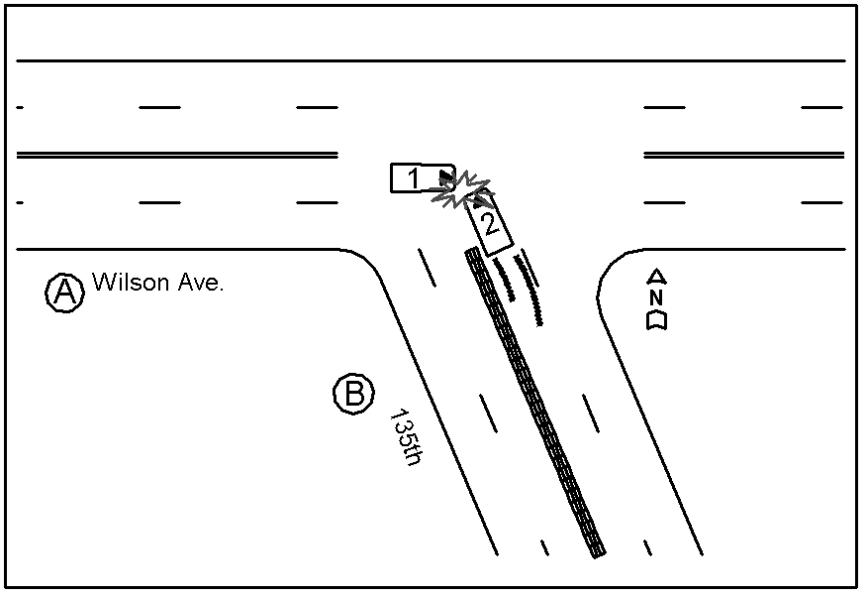


Figure 4.13 - Adding text to the diagram.

notice a box attached to it that represents the size of the text.
4. Change your text height to 7 by clicking the text size box, until it displays 7.
5. Next move your mouse pointer so it is positioned below the horizontal street, near point A in Figure 4.13. Click once to anchor the first letter of the text, move horizontally to the right, and click again to finish.
6. Click in the Enter Text field again, delete the Wilson Ave. text, and type in the word "135th."
7. Click once where you want the starting point of the text, near point B in figure 4.13.
8. Move your mouse pointer downward at an angle parallel to the street. Click your left-mouse button. The text should then be placed as shown in Figure 4.13.
9. Click the Close button to close the text toolbox.

Text Size Icon

Dimensioning

You may want to add some quick dimensions for reference purposes. If we had created this drawing using exact, real world measurements, we could let the program calculate the dimensions for us. However we are just creating a simple sketch, so you may need to enter in the dimension values.

The Quick Dimension feature is found on the Draw/Edit bin on the left-hand toolbox. To ensure the accuracy of the dimension, we'll select the Autosnap command so we can snap to exact points in the diagram.

Autosnap Icon

1. Select the Autosnap icon from the speedbar. Make sure that the message bar at the bottom of the screen reads "AutoSnaps On" If not, click the AutoSnap icon again to turn it on.
2. Select the Dimension command from the left-hand toolbox.

Next, we'll measure the width of the road as follows:

1. Snap to Endpoint at point A, as shown in Figure 4.14.

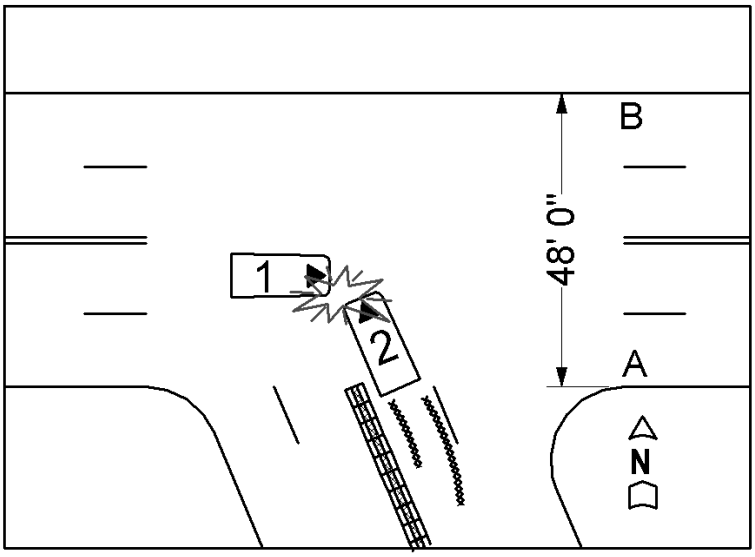


Figure 4.14 - Adding dimensions to the diagram.

2. Move the cursor straight up and snap to the line near point B, as shown in Figure 4.14.
3. The Dimension dialog box is displayed. You can click in the box and enter a new dimension text. You can also change the height of the text.
4. Click OK when finished setting the text options.
5. Now move your mouse pointer towards the left side of your screen to set the location of the dimension text. When you're satisfied with the location of the dimension text, click your left-mouse button to place it.
6. Click the AutoSnap icon to turn it off.

Adding a Leader

The Show Arrow feature, also a option on the Quick Label toolbox, lets you draw an arrow leader with a note attached. Use the Show Arrow feature to label the point of collision as shown in Figure 4.15.

1. Select the Quick Label command from the Draw/Edit bin of the left-hand toolbox. Checkmark the Show Arrow option located on the bottom of the toolbox.
2. Click in the Enter Text field and type "Point of Collision".
3. Use the Text Size buttons to change the height of the text to a size of 4.
4. Move the mouse pointer onto the drawing screen and click near Point "C" to place the arrowhead, as shown in Figure 4.15

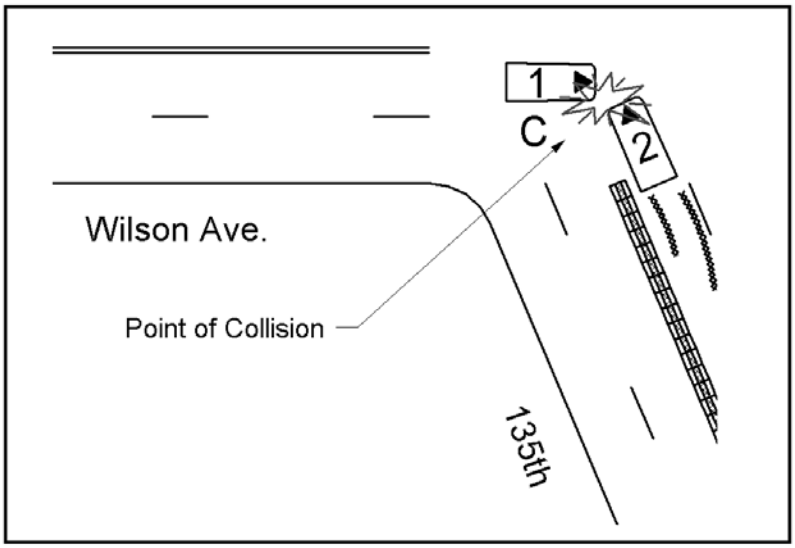


Figure 4.15 - Placement of the text leader.

5. Move the mouse pointer down and to the left and click again for the "shoulder" of the arrow.
6. Move the mouse pointer to the left to position the text and click again.
7. Click the Close button on the leader toolbox to close it.

If you make a mistake while entering a point, just press the Esc key on the keyboard. Every time you press the Esc key the program backs up one step. This works well when placing text, drawing lines, placing symbols, placing dimensions, and so on. Esc has no effect, however, once you've completed the command.

Print Your Diagram

Print Icon

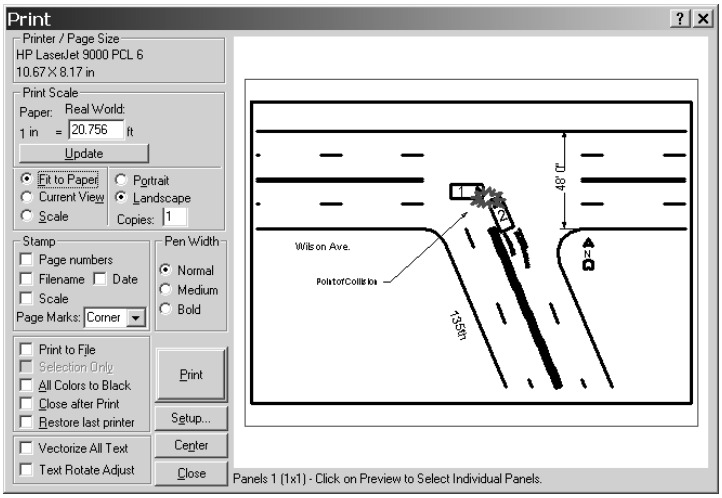
Now you are ready to print your drawing, but since you have added a lot to it, let's save it once more.

Select the Save icon from the speedbar.

Now let's print the Diagram:

1. Select Print from the File pull-down menu or click the Printer icon at the top left of the screen.

2. The Print Options box appears.



The Print Dialog Box.

From this dialog box you can set a variety of options that control how your diagram will be printed. For example, you can enter an exact scale for printing or choose to fit the diagram to the paper.

3. For this case the radio buttons “Fit to Paper” and “Landscape” should be selected.
4. Click on the “Print” button to send the diagram to your printer.

Congratulations! You’ve just completed the Quick Scene tutorial! Figure 4.16 shows what the completed diagram should look like.

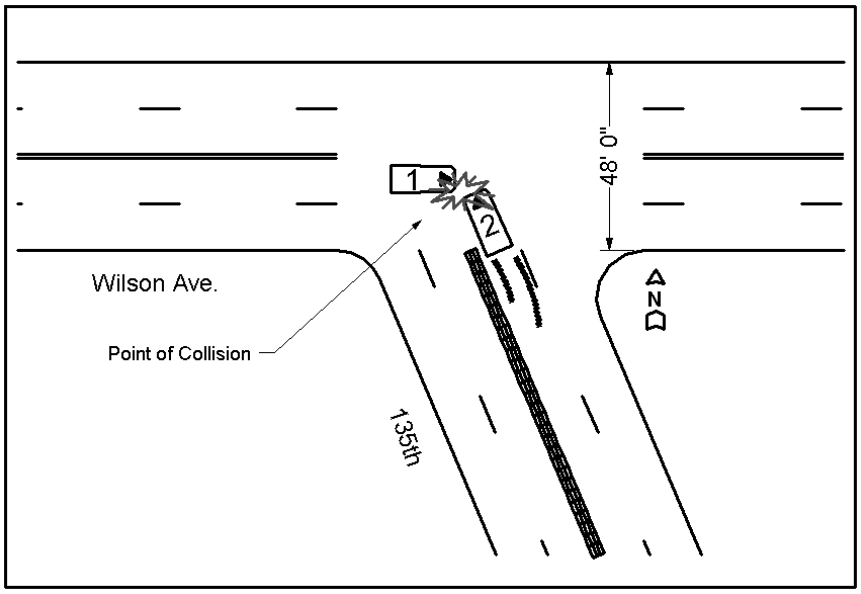


Figure 4.16 - The completed tutorial diagram.

Chapter 5 -

Using the 3D Viewer

This chapter introduces you to the new Diagram Program 3D Viewer. It explains the basic ideas behind 3D, program features, and how to get help with the program if you need it.

In this Chapter

• Introduction
• Why 3D?
• Compatibility
• Starting in 2D
• The 3D Viewer
• 3D Viewer Speedbar
• The Zoom Commands
• Taking A Snapshot

Why 3D?

Professionals from many different industries often use three-dimensional diagrams to visualize scenes and to make presentations. It helps them understand how an object will appear from different angles. If all you have are 2D sketches on paper, visualizing a scene as it really looked can be difficult.

3D gives you a new perspective on the simpler plan-view drawings that you create in 2D. It allows you to view your diagrams in a dynamic rather than static state and look at them from different viewpoints. You can rotate a drawing on the screen just like you would an actual model, and display views from different angles. In a 3D program you can look across a room, look from one vehicle into another, and "walk" through your scene.

The CAD Zone's new 3D Viewer generates a 3D model of a 2D drawing. Lines, text, dimensions, hatches and fills, are all automatically converted to 3D. Most CAD Zone symbols will also automatically convert to 3D in the Viewer. Line types with 3D definitions will also convert to 3D objects. For example, the cone, barrel, fence, and concrete divider line types all show up in the 3D Viewer as 3D objects, automatically!

To keep the process simple and easy to learn, there is no editing or modifications done to the drawing while you are in the 3D Viewer. You make changes by switching back to the 2D plan diagram. When you finish editing your diagram, you open it in the 3D Viewer again. This process can be repeated as many times as you like - working back and forth between 2D and 3D until your 3D view is perfect.

Compatibility

While the 3D Viewer was designed primarily for the viewing of drawings that were created Quick Scene 2.0, it can also be used with many other software applications. You can import drawings from other 3D CAD programs including AutoCAD 2000®, as well as 3D data from Total Station systems and Laser Technology's Quick Map program.

Any .DXF, .DWG, and .RAW (Laser Technology) files that contain 3D data (point and line elevations) can be imported and viewed in the 3D Viewer. All of the 3D data is retained and displayed in the 3D Viewer. Side views will quickly show points and lines that are above or below other points in the drawing, which is very useful when displaying elevations and slopes in a scene.

CAD Zone diagrams with all their 3D data can also be exported to other 3D programs, such as AutoCAD, and any program that supports the DXF file format. To export a diagram to another application, use the "Save As" command with the "Files of Type" option set to .DXF or .DWG . These files are compatible with AutoCAD and require no conversion or other preparation. Many other software applications allow for direct importing of DXF files as well, making your CAD Zone diagrams very flexible.

On the following pages you will find a "quick tour" of The 3D Viewer. This tour is intended to get you familiar with the basic tools and concepts you need to understand in order to use the program efficiently. When finished with this chapter, move on to Chapter 3 to see how to apply these commands to create an actual 3D model from a 2D diagram.

It All Starts In 2D

As mentioned above, the 3D Viewer runs side-by-side with the 2D Quick Scene Program. Let's first look at the tools that you will use in the 2D Program prior to launching the 3D Viewer.

3D View - Clicking this button takes you from the 2D program into the 3D Viewer. The 2D program is not shut down, but remains active with the 2D plan view drawing still open. From the 3D Viewer, simply click the 2D button on the speedbar to return to the 2D program. After making any additional changes to your diagram, you may open it in the 3D Viewer again. This process can be repeated as many times as you like, working back and forth between Quick Scene and the 3D Viewer until your diagram is perfect.

Snapshot Manager - this brings up a dialog box which contains previews of all the snapshots taken in the 3D Viewer. Snapshots can be taken from any position in the 3D view. These snapshots are automatically numbered and saved as .JPG images to a special snapshots folder on your hard disk. The Snapshots dialog box displays thumbnail sketches of all the snapshots you have taken in the 3D Viewer. Any snapshot can also be placed back into a 2D drawing. Because they are .JPG files, these images can easily be inserted into reports or attached to email.

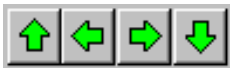
The 3D Viewer

Once you launch the 3D Viewer you will see your diagram with custom line types and symbols converted to a 3D model. You'll also see the 3D result of any objects to which you assigned 3D data using the 3D Builder. There are three things that you can accomplish in the 3D Viewer:

1) Manipulate the view of the scene using the various navigation tools available.
2) Take Snapshots, or images, of the scene.
3) Return to the 2D diagram program for further editing and viewing of snapshots.

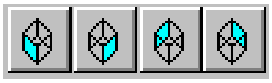
The 3D Viewer Speedbar

At the top of the screen is the Speedbar which contains icons for all the commands needed to manipulate the 3D view, take snapshots, set preferences, and go back to 2D. Starting from the left, the speedbar commands are as follows



Move Buttons are used to move forward, left, right, and backward. One click moves in that direction a length specified in the 3D Viewer preferences dialog. These buttons give the impression of walking or driving through the scene depending on the stepping distance.
Using the Move buttons to move through the diagram maintains the current perspective set up with the camera and target, that is, the space between the camera and the target remains constant.

Flat View Buttons are used to generate a flat (2D) view from one of five specified sides: front, top, left, right, and back.



Isometric View Buttons are used to display different sides of the diagram tilted at 30 degree angles.

Zooms are used to quickly change the view on the screen, positioning you closer or farther away from objects in the diagram.

Snapshot Button takes a snapshot "photo" or image of the current view in .JPG format.

Close And Return To 2D Program - use this button to go back into the 2D program and close the 3D Viewer. All editing is performed in the 2D program. You must return to the 2D program in order to edit or change any of the elements of the 3D scene.

Navigating With The Speedbar Commands

There are Move, Rotate, and Zoom command icons on the speedbar, along with various flat view and isometric view buttons. You can use any of these commands to manipulate your 3D View.

Zoom Commands

Just like in the 2D program, the Zoom commands are used to change the portion of the drawing that is displayed on the screen. While view commands change how objects are displayed on the screen, they do not change the actual measurement or location of any object in the drawing.

The Isometric View Icons.

The isometric view commands can be very helpful if you ever "get lost" in your model, or are having a hard time getting the view you want. Click on one of the isometric view icons to return to that "baseline" view and start your navigating again.

You perform any of the Zoom commands just like in the 2D diagram program, as follows:

Zoom Out - This command is the opposite of Zoom In; it decreases your view in a stepwise manner. Each time you perform this command you move a step further back from the previous view.

Zoom In - This command increases your view of the scene in a stepwise manner. Each time you perform this command you move in a step closer. The default Zoom In/Zoom Out factor is 20% although you can change this value in 3D Preferences.

Taking A Snapshot

The Snapshot command simulates taking a "photo," by saving an image of the current view in .JPG format. Snapshots can be taken from any position in the drawing. These snapshots are automatically numbered and saved as JPG's to a snapshots folder. The 2D program Snapshots Manager displays thumbnails of all the snapshots you take in the 3D Viewer. Any snapshot can be viewed and placed back into the 2D drawing. Because they're .JPG's they can easily be inserted into reports and Power Point presentations, or included as an attachment in an email.

3D Viewer Icon

Snapshot Icon

Return to 2D Icon

Opening the Snapshot Manager

To use snapshots:

1. Switch to the 3D Viewer and use any of the navigation methods to change the view of the drawing.
2. When the desired view is achieved, click the Snapshot icon.

A snapshot of the current view will be saved to the snapshot folder of your hard disk.

3. Click the "Return to 2D" icon from the speedbar.
4. Upon returning to the 2D program, click the camera icon on the speedbar to open the Snapshot Manager toolbox.

All 3D snapshots taken of the current drawing will be displayed as thumbnail images in the preview window.

The Place Snapshot Icon

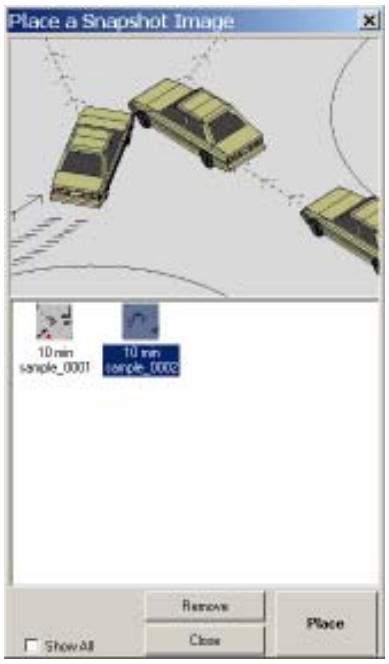
5. Click on any snapshot icon to see a larger view of it in the preview window as shown here.
6. Place a snapshot in the current drawing by clicking on the snapshot thumbnail and then clicking the Place button.

Snapshots are automatically scaled to 1/8 the overall size of the drawing on the screen. Once placed, a snapshot can be selected in the diagram and then moved and re-sized.

7. Click on the Close button to exit the Snapshots dialog.

The Show All Snapshots Option

Note: Check the Show All box to see all snapshots currently in the snapshots folder. These would include snapshots of the current drawing as well as any snapshots taken of other drawings. Select any snapshots you want to delete and click



Previewing a Snapshot in the Snapshot Manager.

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